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Developing Organizational Learning Capacity in Crisis Management

Jia Wang

The problem and the solution. The impact of crises on organizations and individuals has been stronger than ever. Despite increasing recognition of the effects of crisis events, most organizations are found not adequately prepared in managing crises. The increasingly frequent occurrence of organizational crises exemplifies the need for human resource development in preparing organizations and their members for crisis situations. However, very little effort has been made in this direction. Recognizing the dynamics and interconnectedness of crisis management, organizational learning, and organizational change, this article proposes an integrated model of organizational learning for crisis management that will likely strengthen organizational capacity and resilience in coping with crises and resultant changes.

Keywords: *crisis management; organizational learning; organizational change*

Today's organizations operate in an environment characterized by high uncertainty, risk, and turbulence brought on by events such as natural disasters, terrorist attacks, corporate scandals, and major product defects. These unanticipated crisis events, be they small or large scale, naturally occurred or humanly induced, have far-reaching and profound impact on organizations and individuals within (Mitroff, 1988; Pearson & Clair, 1998). To avoid or reduce such impact requires effective crisis management practice. Meanwhile, as the environment grows in complexity and uncertainty, it not only requires significant learning efforts on the part of organizations (Lagadec, 1997), but also makes the rate at which organizations learn a determining factor in its ability to survive or adapt (Schwandt & Marquardt, 2000). Within such contexts, constant and continuous learning has become a necessity for organizational survival, adaptability,

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competitiveness, and long-term viability (Barnett & Pratt, 2000; Mitroff, 2005; Ulrich, Jick, & von Glinow, 1993).

Problem

Three issues appear to be prominent with regard to how organizations handle crises. First, crisis management is a relatively new field that has only received research attention in recent years (Pearson & Mitroff, 1993). In that sense, there is still much more to learn about this phenomenon. That is, research needs to consider how crises may occur and impact the society, communities, organizations, and individuals, and what strategies may be adopted to handle crisis events. Despite the increasing awareness of the effect of a crisis, such as growing costs on organizations (Lalonde, 2007a; Mitroff, 2002; Nathan, 2000; Newkirk, 2001) and the insecurity brought to individuals (Barnett & Pratt, 2000; Mitroff, 1988), most organizations are found not sufficiently prepared for its occurrence (Fegley & Victor, 2005; Hurley-Hanson, 2006; Mitroff, Pearson, & Harrigan, 1996; Pearson, 2002). Organizations that do have crisis plans often find themselves at a loss in a real crisis situation (Lagadec, 1997). This may explain why organizations tend to deal with crisis events ineffectively. The lack of adequate preparation exposes organizations to environmental threats that may jeopardize organizational sustainability and individual welfare (Barnett & Pratt, 2000).

Second, the frequent occurrence of organizational crises exemplifies the need for human resource development (HRD) in preparing organizations and individuals for crisis events. However, very little effort has been made in exploring this issue within the HRD scholarly community despite the amount of extant research on organizational crisis and crisis management conducted by researchers in many other fields such as psychology, management, education, and nursing (e.g., Barnett & Pratt, 2000; Hurley-Hanson, 2006; Lagadec, 1997; Lalonde, 2007a, 2007b; Paraskevas, 2006; Roberts & Bea, 2001; Simola, 2005; Stern & Sundelius, 2002). As a result, HRD professionals may not have a solid understanding of the nature of crises and their impact on individuals and organizations. More importantly, this lack of knowledge about the topic is likely to affect HRD professionals' ability to identify and design effective human resource and organization development interventions, thus reducing the potential contribution of HRD to organizations' overall efforts in crisis management.

A third issue is that although the literature on organizational learning is vast, the amount of literature that focuses on learning for crisis management is relatively small (Lalonde, 2007b). Though we know much about the types and modes of learning and recognize the connection between learning and crisis management, what appears to be missing in our current knowledge is how learning can be applied and how it contributes to effective crisis management. The existing efforts are often geared toward improving human resource management (HRM) practices or are being integrated into other related initiatives such as managing emergency compensation for displaced workers, coordinating the

employee assistance program (EAP), and complying with federal and state safety laws (Kondrasuk, 2004; Lockwood, 2005; Pasek, 2002). Specifically, there is a lack of systematic inquiry into how the organizational learning approach may enhance and maximize organizations' capacity in identifying, preparing for, preventing, resolving, and recovering from each crisis. In other words, to what extent does learning ensure the long-term incorporation of the learning that takes place in organizations before, during, and after a crisis, and that improves organizational resilience in times of crisis?

Purpose and Importance

This article is aimed at exploring how organizational learning contributes to effective crisis management. This primary question was examined based on three assertions. First, rather than viewing a crisis as a threat to organizational survival, stability, and development (Hermann, 1963), this article proposes that a crisis be a learning opportunity (Stern & Sundelius, 2002) that can lead to increased organizational adaptation, vitality, and longevity (Barnett & Pratt, 2000; Hedberg, 1981). Second, the greater the uncertainties and complexity in the environment, the more the challenges posed on organizations, and therefore, the greater the need for organizational learning (Lagadec, 1997, 2006; Schwandt & Marquardt, 2000). Last, crises, in spite of their negative effects, can be a powerful trigger for change (Augilera, 1990; Barnett & Pratt, 2000; Bartunek & Moch, 1994; Pauchant & Mitroff, 1992; Stern, 1997). In this sense, crisis management is a process of managing change that will likely induce behavioral change and a cultural shift.

This study has both practical and theoretical significance to HRD. First of all, understanding the unique nature and properties of crises helps explain how threatened organizations may attain short-term adaptation as well as develop a long-term process involving organizational learning and renewal. Such understanding is necessary to prepare HRD practitioners for identifying areas in which HRD may take a lead and providing appropriate interventions that may not only facilitate organizations in going through difficult and challenging times of crises, but also contribute to the organization's overall strategic intent. Furthermore, organizational learning is powerful in that it equips organizational members with knowledge and skills required for positive change and that it also addresses employee depression (Gilley & Bierema, 2001) that may be experienced under crisis conditions. Finally, exploring the role of organizational learning in crisis management presents HRD scholars new research frontiers where they may discover unexplored or underexplored issues that are critical to the organization's ultimate success.

Method

The primary method adopted to answer the above research question was literature review and conceptual analysis. Three bodies of literature—crisis management, organizational learning, and organizational change—were searched

through U.S.-based databases in the areas of business/economics and education. The following keywords were used either alone or in combination to generate as many publications as possible: crisis, organizational crisis, crisis management, disaster management, emergency management, organizational learning, human resource development, organizational change, and organization development. This search generated a large number of publications on crisis management, organizational learning, and organizational change, yet very few studies focused on the relationship between these subjects. The literature was selected for review based on its relevancy to the topic under study and confined to theories and practices of crisis management within organizational settings. Selected scholarly publications were analyzed using qualitative data analysis techniques, specifically, the constant comparative method (Glaser & Strauss, 1967) and coded for major themes.

The content analysis of the literature pointed to three themes that are reported in subsequent sections: the diversity and complexity of crises, the importance of learning in crisis management, and organizational change resulting from crisis management. The remainder of the article starts with an overview of organizational crisis to provide a general understanding of its characteristics, impact, and processes of managing it. Then, it explores the contribution of learning, particularly the role of organizational learning in crisis management, followed by a discussion of crisis in relation to organizational change. The organizational change literature is presented briefly as it is not the focus of the study, thus discussed only in the context of crises. The literature analysis leads to the development of a new conceptual model that demonstrates how organizational learning can be incorporated into crisis management processes to bring about positive organizational change. Finally, the article concludes with some implications for practice and directions for future research in HRD.

Organizational Crisis

Crises take a variety of forms. Some crises occur as a result of natural disasters such as hurricane, earthquake, and fire; some are human-induced, such as bribery, corruption, major product defect, scandal, and terrorist attack (Mitroff, 1988). Despite a lack of a universal agreement on the nature of crises, crises are commonly characterized by considerable degrees and multiple forms of complexity (Lalonde, 2007a; Stern & Sundelius, 2002). Generally, researchers agreed that a crisis event (a) is highly ambiguous, unknown (Dutton, 1986; Quarantelli, 1988), and unexpected (Hermann, 1963), (b) has a low probability of occurrence yet high impact on organizations (Hermann, 1963; Nystrom & Starbuck, 1984) and their shareholders (Jackson & Dutton, 1987), (c) offers little time to respond (Pearson & Clair, 1998), and (d) presents a challenge for decision making that leads to better or worse results (Augilera, 1990). Some researchers also pointed out that naturally occurring and human-induced crises are fundamentally different in that organizations have little control over natural

disasters yet can prevent the latter if appropriate systems are in place (Pearson & Mitroff, 1993). For this reason, the public tends to react more negatively to human-induced crises.

Organizational crises have been studied by researchers from multiple perspectives, such as psychological, social-political, and technological-structural (Pearson & Clair, 1998). From the psychological point of view, crises are highly uncertain, complex, and emotional events during which people are limited in their information processing capabilities; crisis arise or spiral out of control because organizational leaders and managers have responded irrationally and enacted errors of bias in their decision making (Stubbart, 1987). This view suggests that individuals play a critical role in managing organizational crises. From the social-political perspective, a crisis occurs as a result of a breakdown in collective sense making (Turner, 1976) and role structure (Weick, 1993), or as a failure of followers' belief in leadership and cultural norms (Habermas, 1975; O'Connor, 1987). Consequently, an organization is likely to experience leadership crisis or turnover (Hurst, 1995); organizational members are likely to question the organization's cultural beliefs and call for cultural transformation (Bartunek, 1988). Thus, the organizational leadership and culture needs to be reformed to warrant successful crisis management. From the technological- structural perspective, the cause of a crisis is closely associated with technologies that interact with managerial, structural, and other factors of an organization internally and externally (Pauchant & Mitroff, 1992). This article adopts Pearson and Clair's (1998) definition of organizational crisis for its comprehensiveness and multidimensions: "An organizational crisis is a low-probability, high-impact situation that threatens the viability of the organization and is characterized by ambiguity of cause, effect, and means of resolution, as well as by a belief that decisions must be made swiftly" (p. 60).

Impact of Organizational Crisis

A crisis, regardless of its type or magnitude, has the potential to cause catastrophic or irreparable damage to organizations and individuals (Mitroff, 1988), such as loss of human lives (Pearson & Mitroff, 1993) and significant financial losses (Lalonde, 2007a; Mitroff, 2002; Nathan, 2000; Newkirk, 2001). As Mitroff, Pearson, and Pauchant (1992) pointed out, a crisis not only "affects a system as a whole but also has a threatening effect on its basic assumptions, its subjective sense of self, its 'existential core'" (pp. 244-245). At the individual level, crisis situations may impose severe strain on organizational members' emotional, physical, cognitive, and behavioral capacities (Barnett & Pratt, 2000; Mitroff, 1988), resulting in a heightened sense of vulnerability and impaired sense making (Weick, 1993). At the organizational level, crises can devastate their long-standing reputation and affect a wide range of their stakeholders (Pearson & Mitroff, 1993). Additionally, the rigid and defensive reaction that organizations may have to crisis events leads them to "avoid at all cost the double-loop learning opportunity offered by crises"

(Mitroff et al., 1992, p. 252). Paradoxically, although crises are often described as threatening, they are also suggested as “result[ing] in increased organizational vitality and longevity” (Barnett & Pratt, 2000, p. 76).

Managing Organizational Crisis

Organizational crisis management is “a systematic attempt by organizational members with external stakeholders to avert crises or to effectively manage those that do occur” (Pearson & Clair, 1998, p. 61). A number of factors have been identified that contribute to the success or failure of crisis management. For example, studies found that leaders’ perceptions on risk and their ability to deal with it have direct influence on organizational cultural beliefs about the value of and need for crisis management, and on potential outcomes from a crisis (Mitroff et al., 1996; Pauchant & Mitroff, 1992). Organizations whose leaders do not perceive organizational vulnerability to crises are unlikely to have plans for crisis preparation and prevention, or are unlikely to react effectively to crisis events (Pearson & Clair, 1998). Meanwhile, the leaders’ false perceptions may create a breakdown in collective sense making across the organization; as a result, the shared perceptions on risk and success may not be aligned with the organization’s reality (Turner, 1976). A related study by Mitroff (1988) also revealed that organizational culture is one main determinant on the organization’s response to a crisis. In addition to outlining factors influencing crisis management, researchers provided guidelines for evaluating the outcomes of crisis management. For example, Pearson and Clair (1998) proposed three criteria. First, crisis management efforts are effective when operations are sustained or resumed. Second, organizational and external stakeholder losses are minimized. Third, learning occurs so that lessons can be drawn and applied for future incidents. However, these researchers also noted that in reality, it is difficult to determine whether the outcome of a crisis management effort is successful or not.

Furthermore, researchers have developed various models to describe the processes of managing crises (e.g., Mitroff, 1988, 2005; Paraskevas, 2006; Pearson & Clair, 1998; Reilly, 1993). Among them, Mitroff’s (1988, 2005) process model appears to be representative and thus was selected as one of the three guiding conceptual frameworks for this research. Proposing that crises are similar in nature, Mitroff (1998) outlined five basic steps for crisis management. They are signal detection, preparation/prevention, containment/damage limitation, recovery, and learning. His updated crisis management model (Mitroff, 2005), which is discussed in depth in Hutchins and Wang’s (2008) article as an overarching framework for this issue, added a sixth component: redesign. According to Mitroff, to manage crises effectively, organizations must first be able to identify the early warning signals long before the occurrence of a crisis. Then they must test prevention and preparation mechanisms for any sign of weakness uncovered, test damage-limitation mechanism to prevent

further damage, and test short- and long-term recovery mechanisms in place. Finally, organizations must continuously learn and reassess the crisis management practice and use the new learning and feedback to restructure and improve the current crisis management system.

Crisis and Organizational Learning

Environmental factors such as a crisis can stimulate learning within an organization (Dodgson, 1993; Fiol & Lyles, 1985). In fact, learning has become an increasingly primary concern to many crisis management researchers (e.g., Borodzicz & van Haperen, 2002; Carroll & Hatakemaka, 2001; Elliot, Smith, & McGuinness, 2000; Simon & Pauchant, 2000; Stern, 1997). This theme focuses on the extent to which organizations and their members are capable of analyzing their experiences of a crisis event and using the results as a basis for change (Stern & Sundelius, 2002). Stern and Sundelius (2002) further noted that members of an organization often use lessons from past crisis experiences as a guide for current action. Similarly, they may respond to positive or negative feedback on performance during a crisis by drawing lessons and modifying their beliefs and practices. It is common that individuals reflect on crisis experiences after the fact, draw lessons for the future, and develop action plans based on their interpretations of crisis experiences. In this sense, crises present considerable opportunities for learning. However, based on the analysis of existing literature, it appears that most of the crisis researchers suggest learning be a useful tool to apply *after* a crisis occurs. In this article, I propose that learning should be considered not only after a crisis experience, but it should also be incorporated into each stage of the crisis management process to help organizations recognize, prevent, plan for, and cope better with the crisis. Furthermore, I argue that learning should be promoted at all levels for organizational survival (Casey, 2005). To that end, I propose specifically the organizational learning approach to crisis management. The subsequent paragraphs are devoted to this concept and research evidence on the role of learning in crisis management.

Overview of Organizational Learning

Since the time the concept of organizational learning emerged, more than 40 years ago (Casey, 2005), its popularity has grown continuously (Crossan, Lane, & White, 1999). Conceived as a principal means of achieving organizational survival (Casey, 2005), effectiveness (Kuchinke, 1995; Lopez, Peon, & Ordas, 2005), and renewal (Crossan et al., 1999), organizational learning has been widely adopted as a strategic tool by organizations at multiple levels. First defined by Argyris and Schon (1978) as a process of “detection and correction of error” (p. 2), organizational learning is a way in which organizations “build, supplement, and organize knowledge and routines around their activities and

within their cultures and adapt and develop organizational efficiency by improving the use of the broad skills of their workforces” (Dodgson, 1993, p. 377). Although numerous definitions of organizational learning exist, they focus primarily on two aspects: behavior change (adaptation and cognition) and knowledge creation (Casey, 2005; Glynn, Milliken, & Lant, 1994; Huber, 1991). Kuchinke (1995) identified five elements central to organizational learning: (a) learning from past experience, (b) knowledge acquisition, (c) organizational change, (d) problem identification, prevention, and resolution, and (e) organization as the unit of analysis. In other words, from a theoretical perspective, learning is “a fundamental mechanism by which organizations, as open systems, interact with their environment, process information, and adapt to changing external and internal conditions” (Kuchinke, 1995, p. 308).

In organizational learning processes, knowledge is acquired collaboratively (McHugh, Groves, & Alker, 1998), transferred to new members, and shared across organizational boundaries of space, time, and hierarchy (Ulrich et al., 1993). In this sense, organizational learning is more than the sum of the parts of individual learning (Dodgson, 1993). It involves activities such as describing the changing organizational environment and demands on future performance, analyzing potentials and limits, interpreting past successes or failures, inferring causal connections between actions and outcomes, and critically reflecting on organizational theory in practice (Argyris & Schon, 1996). According to Argyris and Schon (1978), organizational learning takes three forms on three hierarchical levels: (a) single loop learning (correcting errors by using feedback), (b) double loop learning (questioning underlying assumptions and core beliefs), and (c) deutero learning (learning how to learn). Productive organizational learning leads to improvement in organizational performance, exploration, and reconstruction of values and criteria, and increased organizational capacity (Argyris & Schon, 1996). Bierema (2001) pointed to several important trends in organizational learning, including the shift from training to learning, the development of the learning organization, linking training to organizational strategy, and capturing intellectual capital.

A number of models have been constructed to illustrate the organizational learning processes. For example, Huber (1991) identified four constructs: knowledge acquisition, information distribution, information interpretation, and organizational memory. Pinpointing the importance of knowledge that rises above mere information, Nevis, DiBella, and Gould (1997) developed a model containing three generic stages: knowledge acquisition, knowledge sharing or dissemination, and knowledge utilization. Crossan et al. (1999) proposed the 4I framework of organizational learning describing four related (sub)processes—intuiting, interpreting, integrating, and institutionalizing—that occur over three levels: individual, group, and organization. Similarly, Schwandt and Marquardt (2000) constructed an organizational learning systems model, where the organizational learning process is supported by four subsystems: (a) environmental interface, (b) action/reflection, (c) dissemination and diffusion, and (d) meaning

and memory subsystem. Despite the diverse categories the researchers used, much commonality can be found among these process models. Particularly influential for the development of a new integrated model are the core constructs identified by Huber (1991) and Schwandt and Marquardt (2000).

Research on Learning in Crisis Management

The importance of learning in crisis management has been noted and documented in both conceptual and empirical studies (e.g., Borodzicz & van Haperen, 2002; Carroll & Hatakenaka, 2001; Elliott et al., 2000; Lagadec, 1997; Richardson, 1994; Sheaffer, Richardson, & Rosenblatt, 1998; Simon & Pauchant, 2000; Stead & Smallman, 1999). Findings from these studies inform us of the actual and potential contribution of learning to crisis management. For instance, through an analysis of one of the biggest environmental crises and the largest tire fire in North America, the Hagersville tire fire that took place in Ontario in 1990 and involved nearly 14 million tires, Simon and Pauchant (2000) elucidated how such a crisis experience had triggered learning at the behavioral, paradigmatic, and systemic levels. Through this case analysis, the authors stressed the necessity of having three types of learning in crisis management to derive better regulations. They are (a) technologies, controls, or training (first-level learning) that help managers and employees (b) reexamine and modify their old paradigms (second-level learning) and (c) develop a systemic understanding and better strategies (third-level learning) for dealing with complex issues such as the tire fire crisis.

In the context of human-induced crises, Carroll and Hatakenaka (2001) analyzed the case of Millstone Nuclear Power Station in United States and revealed how this organization in a complex, high-pressure industry executed remarkable turnarounds through continuous learning and unlearning to replace leadership and change organizational culture. Sheaffer et al. (1998) studied the case of Baring Brothers and Co. Ltd (BB & Co.), a long-established merchant banking business operating in London, and attributed its collapse to the failure in detecting early warning signals. Drawing a lesson from the Baring crisis, the authors called for the need for unlearning of “a frequent, yet detrimental, repercussion of managerial ineptitude” (p. 1). In a similar vein, Stead and Smallman (1999) conducted an explanatory and chronological analysis of three industrial crises—Johnson Matthey Bank, the Bank of Credit and Commerce International, and Baring. Through the analysis, the researchers found remarkable similarities in these business failures and concluded that successive failures could have been avoided through organizational learning from similar prior events. They further identified factors that have contributed to and prevented learning. Although the cases presented here are just a few examples, they consistently point to the importance of learning and unlearning to warrant a successful outcome of crisis management.

Crisis and Organizational Change

Crises often drive organizational change, for better or worse (Augilera, 1990; Barnett & Pratt, 2000; Pauchant & Mitroff, 1992). In fact, increasing numbers of scholars and practitioners have realized that a crisis, despite its potential negative effects, may serve as a powerful trigger for change and learning (Simon & Pauchant, 2000). Experiencing a crisis tends to change the way people think and challenges their beliefs and perceptions about the social and physical environment, as well as the adequacy of existing organizational structures and procedures that are designed to cope with the environment (Simon & Pauchant, 2000; Stern, 1997). Furthermore, the crisis experience is normally accompanied by strong feelings of tension, a sense of loss, incompetence, confusion, and desperation, which, on one hand, may lead to conflicts and resistance to change (Bartunek & Moch, 1994) and, on the other hand, may paradoxically trigger positive change (Schein, 1993). For example, a crisis event might result in more rigorous thinking and critical reflection (Stern, 1997), encouraging the need for different policies and strategies (Simon & Pauchant, 2000) among organizational members. Given that, effective management of crises becomes even more important to the organization's long-term benefit. This process involves constantly assessing and learning from the present state, determining the future state, and planning ways to reach the desired state through the implementation of well-developed plans (Goodstein & Burke, 1991).

A number of models exist to describe the change processes. A few examples include Lewin's (1951) change model, the classic action research model, the positive model built on appreciative inquiry, and Cummings and Worley's (2005) general model of planned change. This article drew on Lewin's concepts of unfreezing, movement, and refreezing as a general guide for examining the crisis management process. This model was useful in guiding the analytical thinking and in mapping out the relationship between crisis management and change in a broad picture. It was also adopted because it captures the essence of change processes in a simple way, despite the linear relationship it represents. According to Lewin (1951), a change process starts with the step of unfreezing, which involves reducing the forces maintaining the organization's behavior at its present level. By introducing information that shows discrepancies between behaviors desired by organizational members and those currently exhibited, organizational members can be motivated to engage in change activities. In times of crises, a crisis event serves as an external force that would challenge the status quo and cause emotional discomfort or "psychological disconfirmation" on the part of individuals. As a result, the organizational and individual behaviors are likely to be pushed for change and developed to a new level (the moving step) through interventions in organizational structures, systems, and processes. New values, beliefs, and attitudes are likely to be formed within the changed organization. At the refreezing stage, organizations become stabilized by institutionalizing change into practice and

by using supporting mechanisms such as newly developed organizational culture, norms, policies, and structures.

Managing Organizational Crisis Through Organizational Learning: An Integrated Model

The above discussion points to several issues. First, the paradoxical nature of crises presents both threats and opportunities for organizations. When managed appropriately, crises can lead to organizational flexibility and future improvement. Second, managing crisis is a process of managing change that involves unlearning, relearning, and learning at individual, group, and organizational levels. In many instances, crises can trigger and speed up learning processes. Third, although the role of learning is well recognized in crisis management, it appears to be promoted primarily during and after a crisis. Finally, though the relationship between organizational crisis, learning, and change is identified in the literature to a varied degree, the dynamics and interconnectedness among them is not adequately explored or clearly articulated. This section presents an integrated model toward that direction.

Figure 1 conceptualizes the role of organizational learning in crisis management and its relationship to change. Specifically, I examine how the critical learning constructs and processes—knowledge acquisition, knowledge diffusion, knowledge utilization, reflection, and organizational memory, which I draw upon from Huber's (1991) and Schwandt and Marquardt's (2000) frameworks—may play a part in each phase of crisis management as depicted in Mitroff's (1988, 2005) process models. However, to avoid potential confusion and complexity, the different phases of crisis management are not graphically presented. All the boxes and circles are numbered for the convenience of discussion. They do not indicate any sequence of the components in the model.

Organizations are subject to environmental changes such as crises under study. Unfortunately, as ample research evidence showed, many organizations either do not recognize a crisis or have a false assumption that it will never happen to them (Hurley-Hanson, 2006; Pearson & Clair, 1998; Stern, 1997). Such reality and mentality calls for *unlearning* (Box 1) as the first step in organizational crisis management (McGill & Slocum, 1993; Nystrom & Starbuck, 1984). Unlearning is a process of abandoning the dominating ideas, disconfirming past programs, embracing new ideas, and symbolizing change (Hedberg, 1981; Nystrom & Starbuck, 1984). In other words, before organizations try any new ideas, they must unlearn old ones by discovering their inadequacies and then discarding them (Nystrom & Starbuck, 1984).

To unlearn, organizations in serious crises often remove their top managers. An example is the case of Millstone Nuclear Power Station in Connecticut, United States, studied by Carroll and Hatakenaka (2001). To save the company from bankruptcy and to change a seriously broken organizational culture,

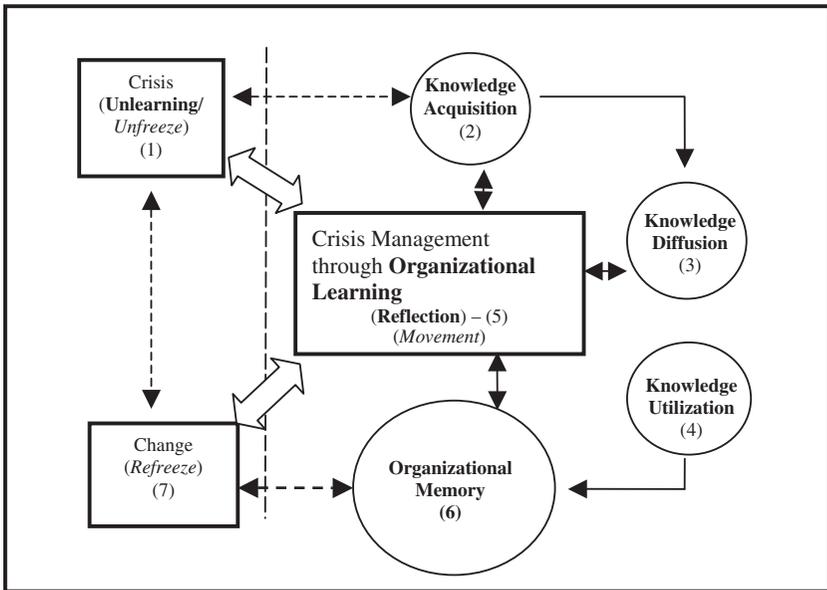


FIGURE 1: An Integrated Model of Organizational Learning for Crisis Management

Millstone sought new leadership who had different values and beliefs. Through continuous unlearning and by trying new practices such as making change visible to all the organizational members, tackling employee relations, giving employees a voice, engaging line managers, fostering a learning culture, and building supportive structures, Milestone successfully shifted from crisis mentality to the long-term process of stabilizing the organization, sustained progress, and ensured the success of the company in a rapidly changing environment.

The unlearning process, parallel to the unfreezing (Box 1) step in change, is also indicative of double loop learning (Argyris & Schon, 1996). Although an uneasy task, unlearning tends to take place more easily in crisis situations where organizational decision makers are forced to reexamine and reestablish value and belief systems, as well as to realign organizational strategies that they might avoid under other circumstances (Stern, 1997). The cases presented earlier illuminate this point. The unlearning process may also be facilitated by organizational members because of their intrinsic curiosity and desire for experiment (McGill & Slocum, 1993). With a changed mind-set, newly formed beliefs, and a more accurate assessment of external and internal reality, organizations now are likely to create a culture that will stimulate and encourage organizational learning (Barnett & Pratt, 2000; McGill & Slocum, 1993; Pearson & Clair, 1998). This will also enable organizations to become

more alert to early warning signals existing in internal and/or external environments and to be proactive in preparing for and preventing a crisis event (Steps 1 and 2—signal detection and preparation of crisis management).

Knowledge, regardless of the domain of skills, information, or attitudes, can be obtained in multiple ways such as experiential learning, vicarious or second-hand learning, searching and noticing (Huber, 1991). In the context of crises, organizational members tend to be more actively engaged in information search for crisis solutions. Consequently, knowledge acquisition (Circle 2) and diffusion (Circle 3) processes may speed up; feedback may be more rapidly forthcoming than in many other types of problem situations (Stern, 1997). These activities together will result in actions and strategies (knowledge utilization) for resolving the crisis (Circle 4, Step 3—containment/damage limitation in crisis management). In order for organizations to make the right decisions, take effective actions, learn from the crisis management experience, and become more prepared for the next crisis, critical reflection in and on action (Box 5; Schon, 1983; Schwandt & Marquardt, 2000) is crucial and should become an ongoing activity in the crisis management process. What is equally important is the organization's capacity to store and retrieve information (organizational memory, Box 6) in a timely and accurate manner. Lacking organizational memory may not only prevent organizations from learning from a crisis experience (Step 4—learning in crisis management), but also affect its ability to provide new knowledge that can help redesign and improve the current crisis management systems (Steps 5 and 6—recovery and redesign stages of crisis management), ultimately, lead to undesirable outcomes of crisis management. Thus, it is critical that an organization in crisis develops procedures, structures, and cultures that will improve organizational memory.

In reality, a crisis will bring about change (Box 7) with or without organizational learning. Both situations are illustrated using a long vertical dotted line. Without conscious organizational learning efforts, a crisis will still unfreeze the status quo (Box 1), force the organization to take actions (Box 5), and move into the refreezing stage (Box 7). This situation, however, may more than likely lead to rigid or reactive responses on the organizational part as noted in the literature (e.g., Barnett & Pratt, 2000). In this case, change may not be desired. With adequate preparations, as illustrated to the right side of the vertical dotted line, organizations become more alert to crisis signals (Pearson & Mitroff, 1993) and more active in knowledge acquisition and development of contingency plans. Such practice prior to a real crisis may be considered as "fire drills" to the organization with "what-if" solutions. So when a crisis does occur, the organization is adequately prepared and, therefore, likely to be more flexible and effective in responding to the situation using the knowledge accumulated and action plans formulated (Pearson & Clair, 1998). To ensure a desired crisis management outcome though, organizations must engage in ongoing unlearning and learning (Barnett & Pratt, 2000; Hedberg, 1981; Nystrom & Starbuck, 1984), actively share knowledge

through open communications (Pearson & Clair, 1998), and promote double loop and deuterio learning at all levels and among all members in the organization (Gilley & Bierema, 2001).

The newly developed model (Figure 1) enhances our current knowledge in several ways. First, unlike many models in crisis management treating learning as a separate step (e.g., Mitroff, 1988, 2005; Pearson & Mitroff, 1993), this model highlights the prevailing role and importance of learning in every stage of the crisis management process. Second, this model situates organizational learning in the unstable and crisis-prone context that reflects the organizational reality. With the utilization of the vertical dotted line, this model shows different change results that may be generated with or without embracing organizational learning. By articulating such differences, this model also justifies the contribution of organizational learning to organizational effectiveness. Next, this model captures the dynamics among crisis management, organizational learning, and change and clearly displays the nonlinear and interconnected nature among these three areas. Finally, this model emphasizes the need for critical reflection as an ongoing practice in crisis management.

Implications for Practice and Directions for Future Research

A synthesis of the selected literature, although not representing a full spectrum, does point to some critical aspects for HRD practitioners and scholars to consider. This section draws implications for human resource and organization development practices. It also recommends some specific research areas for scholars who are interested in further pursuing studies in this arena.

Implications for Practice

Exploring organizational learning in crisis management has practical implications for HRD. Although organizational learning has proved to be useful in enhancing organizational effectiveness (Bierema, 2001; Kuchinke, 1995), it does not always bring about desirable outcomes. Therefore, it is crucial that HRD practitioners understand how to promote learning strategically so that the desired outcomes emerge. For that purpose, the following implications are derived.

First, it is important to create organizational learning culture that not only encourages risk taking and acceptance to failure (McGill & Slocum, 1993), but also incorporates the principles and practices of the learning organization (Senge, 1990), action learning (Marquardt, 1999), transformative learning (Mezirow, 1991), and critical reflection (Argyris & Schon, 1996). Doing so enables organizations to foresee and prevent crises (Lagadec, 1997) and effectively learn from crisis experiences (Stern, 1997). By partnering with the organizational leaders and management teams, HRD practitioners can play a leading role in fostering such stimulating organizational culture.

A second implication is that HRD practitioners must take advantage of HRD interventions, for example, using training or learning-based programs to build the knowledge base of crisis management among organizational leaders, managers, and stakeholders, as preparing an organization in advance by training on crisis management is better than paying a high cost in the future. Furthermore, it can speed up organizations' recovery from crisis events (Carroll & Buchholtz, 2003). The training or educational programs may also help leaders adjust their mentality and recognize the need for and benefit of crisis management (Pauchant & Mitroff, 1992). Without leadership support and the stimulating cultural environment, crisis management efforts are unlikely to be effective (Pearson & Clair, 1998).

Additionally, although learning is a powerful process, it is not without limitations. The individual attention and lack of strategic focus (Gilley & Bierema, 2001) may affect the effectiveness of learning-based HRD interventions in addressing organizationwide issues such as crises. Thus, HRD practitioners should critically adopt learning-based interventions. When organizational learning is selected as a tool for organizational effectiveness, practitioners must ensure that learning is promoted at all levels and aligned with the overall strategic intent of the organization (Lockwood, 2005). To do so, HRD practitioners should partner with the leadership team and actively engage themselves in regular needs assessment and environmental scanning.

Finally, although leadership is not the focus of this study, it is evidenced by the literature that organizational leaders play a critical part in crisis management; their mentality and knowledge about crises have a direct impact on the organizational level of preparedness for crises and related structures and policies. For HRD professionals who are charged with the central mission of leadership development, it is our responsibility to enhance the leaders' awareness of the uncertainty and complexity of internal and external environments the organization interacts with daily, and to sharpen their leadership skills so that they can lead the organization and individuals in turbulent times. HRD practitioners must actively seek appropriate training, learning, and organization development interventions that would most effectively address the specific demands of the organization in preparing for and handling unforeseeable and foreseeable events.

Directions for Future Research

In light of the foregoing discussions, additional research is needed in the following areas. First, the proposed model is derived from a conceptual analysis of existing literature that was selective and by no means comprehensive. The lack of sufficient empirical data in the article is likely to reduce its potential contribution to our current knowledge. Therefore, for researchers who are interested in this line of inquiry, it is important to build on current research by collecting more evidence that will likely enrich our current understanding of the

topic. Meanwhile, the integrated model was constructed as a conceptual framework, and its usefulness and validity need to be further examined and empirically tested.

Second, though the new model provides a strategy (organizational learning) for improving organizational capability of managing crises, it is more of an overarching conceptual framework that informs our thinking. It does not offer HRD practitioners specific procedures regarding what learning tools may be used at each phase of the crisis management. Therefore, empirical data needs to be collected through multiple research methods (e.g., interviews, surveys) to develop concrete tools based on the proposed conceptual framework. For instance, it may be useful for HRD scholars to conduct studies on how organizational leaders may launch learning initiatives that will increase the likelihood of successful outcomes of crisis management. Equally important is the inquiry into what specific HRD interventions may be most effective in promoting learning within the organization in the crisis context.

Next, although explored in many fields, crisis management has not received much attention in HRD. This article is one effort, jointly with other studies included in this issue, in tapping this territory from the HRD perspective. More systematic inquiry, both conceptually and empirically, is needed to unfold areas where HRD may play a critical role in the process of crisis management. Research in this direction may not only further justify the value of HRD in organizations, but also, more importantly, generate new knowledge that may assist HRD and crisis management professionals in effectively handling crises that will ultimately improve organizational adaptation and reinforce learning.

In addition, given that this article focuses largely on the crisis events that have occurred in the West, particularly the U.S. context, it is meaningful to extend crisis management research to the international setting. For example, it is necessary to investigate whether culture plays a role in organizational crisis management; if the answer is "yes," then to what extent does culture affect organizations' practice in crisis management, and how differently are crisis events handled in different cultures? Gaining insights into these issues is important for international HRD professionals who work with transnational organizations and individuals who operate in cross-culture settings. Having such culture sensitivity and knowledge will also likely assist international HRD professionals in identifying or designing culture-based HRD interventions that will allow organizations to more effectively cope with crisis situations that may be different from those they have experienced in their own culture.

Last but not the least, as literature suggests, individuals react to crises in very different ways. Hence, it is worthwhile to conduct future research to understand individual differences in responding to crisis situations. Findings in this area may assist HRD practitioners in identifying and developing appropriate HRD interventions that can help employees overcome feelings such as stress, fear, anxiety, frustration, and desperation resulting from crises.

Conclusion

This article explored the critical role of organizational learning in crisis management. Because effective organizational learning and effective crisis management practices are intrinsically linked, this article contended that promoting organizational learning before, during, and after crises will most likely put organizations in a better position in detecting crisis signals, developing action plans for preventing and handling a crisis situation, effectively learning from a crisis experience, and applying new learning to improve future practice in crisis management. Integrating concepts from crisis management, organizational learning, and organizational change, this article proposed a conceptual framework to demonstrate how organizations may prepare for and respond to the threats through continuous learning processes. Although this article presented a broad overview at a conceptual level, it will hopefully generate more research interest in crisis management, an important yet not adequately explored area, by HRD scholars. With an increased knowledge base, HRD practitioners may take a more active leadership role in facilitating organizational learning and change in the midst of crisis. Meanwhile, with enhanced learning capability and agility, organizations may also increase their likelihood of success and move from being crisis-prone to become crisis-prepared.

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