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Project on Organizational and Community Preparedness

Predicting Organizational Crisis Readiness:

Perspectives and Practices toward a Pathway to Preparedness

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Want of foresight, unwillingness to act when action would be simple and effective, lack of clear thinking, confusion of counsel until the emergency comes, until self-preservation strikes its jarring gong—these are the features which constitute the endless repetition of history.

WINSTON CHURCHILL, House of Commons, May 2, 1935[1]

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I. STUDY OVERVIEW

Governments, businesses, and nonprofit organizations within the United States have never been under greater pressure to prepare for crisis than they are today. Terrorism remains a significant threat, natural disasters seem to be growing more violent, economic uncertainty is increasing, and cyber attacks constitute a continuing threat.

It is generally believed that the pace of change in society and in organizational life is increasing. This belief coincides with the perception that crises are also increasing. As Leon Fuerth writes,

> In the 21st century, we face an emergent new class of problems that are not hierarchical, but rather conform in their structure and dynamics to systems described by complexity theory....This new class of problems tends to be fast moving and unstable, in the sense that trends and events interact spontaneously, with the result that surprise can outpace societal response. In complex systems, inputs and outputs are not only unpredictable but on occasion, highly non-linear: that is, seemingly small events can lead to massively consequential results.[2]

Ian Mitroff, one of the most respected scholars studying organizational crises of all kinds, has suggested that the scope and magnitude of these accidents is increasing.[3] Others have speculated that there is a direct relationship between population and hazards, such that as population increases, the number of hazards increases proportionately.[4] If those assumptions are true, it would mean that the crises ahead are increasing in both complexity and frequency.

According to the Institute for Crisis Management, the number of "newsworthy crises" has grown from just over 6,300 in 1996 to more than 10,500 in 2005.[5] Charles Perrow, in his classic book *Normal Accidents,* suggests that increasing technological complexity and "tight coupling" of events and consequences make accidents more likely or "normal," meaning inevitable and expected, in organizational life, while Uriel Rosenthal and Alexander Kouzmin argue that the "technological systems [are] becoming even more interdependent, vulnerable, and problematic in their intended and unintended consequences."[6]

And according to Paul ‘t Hart, Liesbet Heyse and Arjen Boin, globalization is exacerbating these trends: “as distances shrink, people and goods are moving faster and farther, communication networks become more complex and indispensable, and technological advances spill over one from one domain into another almost effortlessly.”[7] This increase in complexity and tight coupling, a by-product of globalization, also increases organizational vulnerability to crises.

Yet levels of crisis readiness among organizations remain low and poorly understood.[8] A 2007 survey by PricewaterhouseCoopers found that almost 50 percent of top executives’ organizations had experienced a crisis such as “a hurricane, an infrastructure collapse, a shift in regulatory mandates or armed conflict” in the prior three years, yet only a quarter of the surveyed executives expected a “major occurrence within the next three years.”[9] As reported in a 2003 *Harvard Business Review* article, two-thirds of surveyed corporate strategists said that their organizations had been “surprised by as many as three high-impact events” over a five-year period, and that nearly all (97 percent) did not have an early warning system in place.[10] As also noted by Karen Fowler, Nathan Kling, and Milan Larson, a 2003 *Wall Street Journal* article found that almost half of the corporate security directors surveyed reported that their organizations were not crisis ready in “basic areas,” and that even in those organizations that have formal crisis management or response plans, “many organizational employees were not aware of [them].”[11]

These trends are not limited to large corporations. Other studies have found low levels of crisis readiness in small and medium-sized businesses. Lesley Meall reports on a survey by Professor Jean-Noel Ezingeard showing that half of small and medium-sized businesses “had not even assessed their vulnerabilities, let alone put a crisis management plan in place.”[12] In 2006 Rodney Runyan reported that less than 12 percent of the small business organizations in the Gulf Coast states that he surveyed had formal disaster plans.[13]

There is also evidence that specific business processes (in contrast to whole organizations) are particularly unready for crises. In 2007, fewer than 40 percent of the corporate executives surveyed by PricewaterhouseCoopers rated their research and development, marketing and sales,

brand management, logistics and distribution, human resources, and procurement functions as crisis ready.[14]

Moreover, despite the seemingly low levels of readiness in for-profit entities, nonprofit organizations and government agencies may be even less prepared. John Spillan found in his survey of nonprofit crisis readiness that "only a little more than a quarter of respondents indicated that a formal crisis management team or any plans to implement it were operating in their non-profit organization."[15]

Yet there is a substantial cost to being unready for crises. John Chong suggests that "managers without the benefit of a CMP [crisis management plan] tend to face a greater challenge in the coping process. They also are bound to endure more stress, both emotional and physical."[16] Catherine Romano warns that "if executives are trying to rescue their firms without a well-thought-out contingency plan, the business consequences could be as disastrous as the incident itself."[17] And James and Wooten note that "the consequences to a firm's reputation from mishandling a corporate crisis can linger for decades."[18]

This increased vulnerability stands in sharp contrast to the evidence that investing in crisis readiness pays off in decreased vulnerability. Many organizations whose readiness has been tested by a crisis have come through well. Mahasweta Banerjee and David Gillespie suggest that "preparedness is an important indicator of effective response and recovery efforts in disaster situations."[19] Christine Pearson and Judith Clair also contend that the success with which an organization emerges from a crisis is influenced by its pre-crisis planning.[20]

One obstacle to organizational preparedness is the inadequacy of support available to organizations in the face of a federally declared disaster. Should such a disaster hit, the federal government offers assistance to private sector organizations primarily through the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988, which makes several key provisions about the kinds of relief they may be eligible for, including small-business loans and support for not-for-profit utility providers. However, many of those provisions are outdated or

far too limited. In the case of small-business loans, for example, the act limits the size of the grants regardless of the scope of the event; moreover, it provides grants only to those organizations that are physically located in the federal disaster area, thus undercutting the purpose of the policy: to help small businesses recover after a disaster. Further, many organizations that provide critical resources in disasters (e.g., telephone providers and for-profit utilities) do not receive needed assistance for their damaged infrastructure or compensation for overtime work to restore services, which often creates a conflict between doing what is best for the business and doing what is best for community disaster response.[21]

This report outlines organizational characteristics that enhance an organization's ability to recover after a crisis. Some of these characteristics are implied in the definition of crisis readiness that is discussed in the second section of the report; others have been identified in specific studies of the environment, structure, leadership, and internal systems of crisis-ready organizations, which are discussed in the third section. This report seeks to capture the essence of all these views in a single term, *crisis readiness.* This term embraces the many insights from the research literature as well as providing room for multidisciplinary insights. The notion is that crises come in many sizes and from many sources; therefore, readiness for external events is linked to readiness for internal events, and vice versa. As the third section suggests, some organizational characteristics emerge as significant predictors of crisis readiness while others drop in importance.

The fourth section presents findings from a survey of opinion leaders from the government, for-profit, and nonprofit sectors to compare crisis characteristics of organizations. The analysis of the survey is based on a relatively simple method for sorting through the long list of recommendations for action. It recognizes that organizations must make choices about where to invest. Having been told to do everything by way of crisis readiness, many organizations may decide to do little more than a bit of crisis planning, thereby leaving crisis readiness to others or creating a "tragedy of the commons," in which no one prepares but instead relies on government. But government itself may have difficulty sorting through the growing array of best practices currently receiving notice in the field, and policy obstacles such as those posed by the Stafford

Act may prevent government and organizations from developing preparedness plans that leverage resources effectively and allow for a truly prepared society. Hence, this study was designed explicitly to ask what matters at different levels of crisis readiness. The report concludes with recommendations on the pathway to preparedness for organizations.

II. DEFINING CRISIS READINESS

The field of crisis readiness covers a range of disciplines and best practices, each having its own areas of specialization and key terms. Some researchers write directly of organizational disaster readiness, which most often focuses on external, large-scale events such as terrorist attacks and natural disasters. Others write of emergency preparedness, which focuses mostly on external, small- to large-scale events. And still others break these disciplines into substrata, such as mitigation, response, and recovery. Although some of these fields of study do address internal crises such as leadership transitions and product malfunctions, most focus on external sources of concern, viewing the organization as something to be defended.

Crisis

A crisis, according to the *Oxford English Dictionary,* is figuratively a "vitally important or decisive stage in the progress of anything; a turning-point." The definition continues by specifying that a crisis is "a state of affairs in which a decisive change for better or worse is imminent; now applied esp. to times of difficulty, insecurity, and suspense in politics or commerce."[22]

Many scholars have proposed other definitions, but despite assumptions to the contrary, there is imperfect agreement among them as to the preferred definition of the word. As stated by Rodney Runyan, "the diversity in the extant crises literature has caused the refinement of a clear definition of crisis to be problematic at best…."[23] The accompanying sidebar provides a sampling of definitions; these highlight other important aspects of crises—for example, their effects on organizational processes such as decision making and on entities beyond the organization itself.

As the definitions in the sidebar reveal, many authors emphasize the negative impact of a crisis on an organization's survival or goal fulfillment. Paul Shrivastava and Ian Mitroff write that crises are "events that threaten [the corporation's] most important goals of survival and profitability"; John Chong defines them as "negative incidents that can cause the demise of an organization"; and Maria Nathan writes that crises are "events that threaten the survival and

goals of an organization."[24] Crisis-ready practitioners generally agree, however, that the employees of an organization should have a shared understanding of what "constitutes a crisis, and how [their] team or teams will activate and respond."[25]

Definitions of *crisis*

"Any emotionally charged situation that, once it becomes public, invites negative stakeholder reaction and thereby has the potential to threaten the financial wellbeing, reputation or survival of the firm or some portion thereof."[i]

"A low-probability, high-impact event 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."[ii]

"…a serious threat to the basic structure or the fundamental values and norms of a social system, which—under time pressure and highly uncertain circumstances—necessitates making critical decisions."[iii]

"…a situation that threatens high-priority goals of the decision-making unit, restricts the amount of time available for response before the decision is transformed and surprises the members of the decision-making unit by its occurrence."[iv]

i Erica Hayes James and Lynn Perry Wooten, "Leadership as (Un)usual: How to Display Competence in Times of Crisis," Organizational Dynamics 34, no. 2 (2005): 142.

[ii] Christine M. Pearson and Judith A. Clair, "Reframing Crisis Management," Academy of Management Review 23 (1998): 60.

[iii] Uriel Rosenthal, Paul 't Hart, and Michael T. Charles, "The World of Crises and Crisis Management," in Coping with Crises: The Management of Disasters, Riots and Terrorism, ed. Uriel Rosenthal, Michael T. Charles, and Paul 't Hart (Springfield, Ill.: Charles C. Thomas, 1989), 10.

[iv] C. F. Hermann, International Crises: Insights from Behavioral Research (New York: Free Press, 1972), as quoted in Uriel Rosenthal and Alexander Kouzmin, "Crises and Crisis Management: Toward Comprehensive Government Decision Marking," Journal of Public Administration Research and Theory 7, no. 2 (1997): 279.

These observations about the impact of a crisis on an organization help us to better understand what a crisis is. However, there are more systematic classifications, or typologies, of crises that

help us to gain a fuller understanding of the origination and development of a crisis, as well as of its nature. Shrivastava and Mitroff assert that crisis prevention and management is fully possible, but only when there is a rich understanding of the nature of crises. They also contend that once an organization's members have an understanding of "the real nature and systemic causes of crises," they can "develop strategic plans and programs" to deal with them.[26] These formal theoretical frameworks are therefore important for both academics and practitioners.

Some of the classifications of crises in the literature are very straightforward. For example, Carole Lalonde describes a simple framework whereby a crisis can be viewed according to (1) its origin—namely, whether it is natural or man-made; (2) its consequences; (3) its underlying course; and (4) its level of risk.[27] Christine Pearson and Ian Mitroff emphasize the differences between anthropogenic and natural disasters, while Peter Hwang and J. David Lichtenthal differentiate between abrupt and cumulative crises.[28]

Using terminology from the Institute for Crisis Management, Erica Hayes James and Lynn Perry Wooten stress the differences between what they call "sudden crises" and "smoldering crises," and suggest that these two types of crises require substantially different management approaches. In this classification system, sudden crises "are those unexpected events in which the organization has virtually no control and perceived limited fault or responsibility," whereas smoldering crises are "events that start out as small, internal problems within a firm, become public to stakeholders, and, over time, escalate to crisis status as a result of inattention by management."[29] These smoldering crises are akin to the protracted or "creeping crises" described by Uriel Rosenthal, Paul 't Hart and Michael Charles.[30]

James and Wooten also suggest that within an organization, people view these two types of crises in quite different ways. They write that sudden crises are often "perceived as being beyond management control," while smoldering crises are "generally perceived as the fault of a firm's leadership."[31] Since data from the Institute for Crisis Management indicate that "nearly three-quarters of all business crises fall into the smoldering category,"[32] one can deduce that, in the majority of crises, the leadership is perceived to be responsible.

Shrivastava and Mitroff propose a typology of crises that is rooted in their view that crises are a product of interacting technological, organizational, and human failures.[33] As their typology stresses the differences between various types of events that trigger corporate crises, they propose two separate axes against which the causes of corporate crises can be plotted. The first axis is the technical/economic versus human/organizational/social crisis events; the second is crises that originate within the organization versus those that begin outside of it. Their summary diagram, with examples of crises that belong in each part of the model, is presented in Table 1.

Table 1. A Typology of Crises: Shrivastava and Mitroff

Type	Examples of internal crises	Examples of external crises
Technical/economic	Major industrial accidents Product injuries Computer breakdown Defective, undisclosed information	Widespread, environmental destruction Natural disasters Hostile takeover Societal crises Large-scale systems failure
Human/organizational/social	Failure to adapt to change Sabotage by insiders Organizational breakdown Communication breakdown On-site political tampering Illegal activities	Symbolic projection Sabotage by outsiders Terrorism Executive kidnapping Off-site product tampering Counterfeiting

Source: Adapted from Paul Shrivastava and Ian I. Mitroff, "Strategic Management of Corporate Crises," *Columbia World Journal of Business* 22, no. 1 (1987): 7.

In contrast, Pearson and Mitroff present a typology developed by the University of Southern California's Center for Crisis Management.[34] Their typology differentiates not only between technical/economic crises and human/organizational crises but also between "severe" and "normal" crises (as opposed to internal vs. external points of origin).

Stephen Gundel has developed a typology that he contends is better able to capture both "classic crises" and "the so called post-industrial, post-national crises."[35] His typology focuses on two "classification criteria, namely the predictability of a crisis and the influence possibilities before or while it occurs." Gundel's model, presented in Table 2, indicates that crises that are both

easily influenced and easily predictable, such as decisions to retire, can be thought of as *conventional crises*, whereas crises that are easily influenced but difficult to predict, such as an outbreak of e-coli infection, can be thought of as *unexpected crises*. On the other hand, crises that are difficult to influence yet easy to predict, such as the progress of the normal business cycle, are *intractable crises*, whereas crises that are difficult to influence and difficult to predict, such as a terrorist bombing, are *fundamental crises*.

Table 2. A Typology of Crises: Gundel

Type	Easy to influence	Hard to influence
Easy to predict	Conventional crises	Intractable crises
Hard to predict	Unexpected crises	Fundamental crises

Source: Stephen Gundel, "Towards a New Typology of Crises," *Journal of Contingencies and Crisis Management* 13, no. 3 (2005): 112.

Yet another crisis typology has been proposed by Uriel Rosenthal and Alexander Kouzmin, who offer it not as a "grand theory or analysis" but as a "tool for placing crisis events within a broader framework of similar events."[36] They suggest that it is useful to disaggregate the aspects of a crisis that relate to the threat from those that relate to the perceived solutions (from the vantage point of the crisis participants). When analyzing the threat, they focus on (1) its *object* (i.e., what the target is), (2) its *domain* (e.g., a geographic region or a set of cultural values), and (3) its *origin*—specifically, whether it originated endogenously or exogenously. When examining the perceived solutions, they identify two factors: the *perceived necessity of response* (i.e., the perceived gravity of the situation) and the type of solutions available.

Shrivastava and Mitroff propose that crises develop in three distinct stages. The first stage is an incubation period in which there are "several indirect warnings and smaller incidents that indicate problems within the system."[37] The second is the occurrence of the crisis itself. The last is the evolution of the crisis, in which events occur in "several domains inside and outside the system"; this is the point when external pressure mounts and managers have little control. Pearson and Mitroff's 1993 study proposes a somewhat different series of phases through which

crises pass: early warning signals, prevention, damage containment and business recovery, and organizational learning. This description is more clearly from the vantage point of the organization and its members.[38]

From the federal perspective, a crisis is categorized as either an emergency or a major disaster. As outlined in the Stafford Act, an *emergency* is defined as "any occasion or incident for which, in the determination of the President, federal assistance is needed to supplement State and local efforts"; a *major disaster* is defined as one that causes "damages of sufficient severity and magnitude to warrant major disaster assistance" (42 U.S.C. 5122). The distinction is important, as each declaration entails varying levels of support for organizations. Yet as Mitchell Moss and Charles Shelhamer point out, certain events are not covered by the Stafford Act even though they qualify as disasters: riots, refugee situations, and chemical, biological, or radiological incidents, be they accidents or terrorist attacks.[39]

Clearly, there is a wide range of definitions and views on what a crisis is. However, researchers tend to agree that a crisis has negative consequences for an organization and that these negative consequences include organizational mortality.

Readiness

The definition of *readiness,* as found in the *Oxford English Dictionary,* focuses on more than the obvious "quality, state or condition of being ready." It also suggests "promptness in voluntary action," "quickness or facility with which something is done," and "a state or preparation" or "the condition or fact of being ready or fully prepared."[40]

Many scholars studying crises in organizations refer to the notion of readiness. For example, citing John Campbell's definition of readiness—"an overall judgment concerning the probability that the organization could successfully perform some specified task if asked to do so"[41]—Banerjee and Gillespie write that "readiness is conceptually similar to preparedness in the effectiveness literature."[42] David Gillespie and Calvin Streeter also define preparedness as "the degree of readiness to deliver services in response to a disaster."[43] In their 1997 piece titled

Managing the Unthinkable, Christine Pearson and colleagues use the terms *readiness* and *preparedness* nearly interchangeably.[44]

Banerjee and Gillespie also note Campbell's view that the term *readiness* has primarily been used within military settings,[45] within which context it is defined as

> [t]he ability of US military forces to fight and meet the demands of the national military strategy. Readiness is the synthesis of two distinct but interrelated levels. a. unit readiness—The ability to provide capabilities required by the combatant commanders to execute their assigned missions. This is derived from the ability of each unit to deliver the outputs for which it was designed. b. joint readiness—The combatant commander's ability to integrate and synchronize ready combat and support forces to execute his or her assigned missions.[46]

Others define *military readiness* as "the ability to respond with appropriate force with little or no warning"[47] or "the ability of a military unit, such as an Army division or a carrier battle group, to accomplish its assigned mission."[48]

Another way of looking at readiness, outside of the military context, is to examine what things, beyond the long list of crises described earlier, organizations should be readying themselves for. The literature provides a plethora of answers, but many focus on some type of accident, error, destabilizing event, or uncertainty as a broad inventory of potential threats to the organization.

Charles Perrow, a highly respected organizational scholar, argues that certain kinds of organizations experience accidents almost as a matter of course. He developed Normal Accident Theory to explain the incidence of technological crises in such entities as the nuclear power plant at Three Mile Island, suggesting that those organizations that are both highly technologically sophisticated and "tightly coupled" are crisis prone—at risk of small failures in one system cascading into a catastrophic failure in all systems. Tightly coupled systems, as explained by Karlene Roberts, are those that have "1) more time dependent processes (they cannot wait to be attended to), 2) more invariant sequences (B must follow A), 3) overall designs that allow only

one way to reach a goal, and 4) little slack."[49] As summarized by George Frederickson and Todd LaPorte, "the theory of 'normal accidents' argues the statistical probability of accidents and suggests that control-system components interact in complex ways that can increase the probability of whole-system failure."[50] Thus, while there remains continuing disagreement about the societal value of the services that such highly technological and tightly coupled organizations provide—clean fuel from nuclear plans, for example—Perrow argues that in these organizations, accidents—and, thus, crises—will be normal occurrences.

Another theory looks at an overlapping set of organizations but from a different vantage point. The High Reliability Organizational (HRO) Theory suggests that organizations that "operate high-hazard technologies"[51] must be particularly ready for error and "aspire to be failure free."[52] The literature identifies two types of HROs: "error-adverse organizations, such as air traffic control or nuclear power generation" and "error-tolerant organizations that are doing so-called impossible jobs, such as trying to reduce prison recidivism."[53] For these organizations a crisis will have large-scale negative consequences, not only for the entity or organization but also those individuals, organizations, and communities in its midst.

While few organizations qualify as HROs, those that do are relevant to any analysis on crisis readiness because they have found ways of organizing so that errors—and by extension, crises—are minimized to the greatest extent possible. Some authors have found these organizations to be the "harbingers of adaptive organizational forms for an increasingly complex environment."[54]

As there is much to be learned about crisis readiness from a study of the highly reliable organization, the organizational characteristics of HROs are discussed in the next section. However, it is worthwhile to stress here one of the key differentiators between the recommendations of traditional organizational and public administration theory and HRO Theory: HROs seek to build in structural redundancy rather than reducing duplication of effort.[55] At their core, HROs prioritize safety over efficiency.

Organizational resilience is another concept that helps to explain readiness. Judith Clair and Ronald Dufresne define *resilience* as "the ability to quickly bounce back after tragedy."[56] John Horne focuses more on the structuring of the organizational system, defining *resilience* as "the ability of a system to withstand the stresses of environmental 'loading' based on the combination/composition of the system pieces, their structural interlinkages, and the way environmental change is transmitted throughout the entire system."[57] Diane Coutu notes that this concept originated in the psychological literature as researchers such as Norman Garmezy tried to understand why only some children of the mentally ill experienced mental health problems.[58]

Coutu's review of the resilience literature suggests that there are three key elements to resilience: (1) "a staunch acceptance of reality," "a deep belief, often buttressed by strongly held values, that life is meaningful," and "an uncanny ability to improvise." She offers the Catholic Church as an example of an extremely resilient organization in that it "has survived wars, corruption, and schism for more than 2,000 years thanks largely to its immutable set of values."[59]

There is some disagreement in the literature about the role that resilient employees play in organizational resilience. According to Coutu, "values, positive or negative, are actually more important for organizational resilience than having resilient people on the payroll."[60] In contrast, Peggy Doe and Donald Blohowiak, for whom resilience means adaptability to change, believe that organizational resilience "requires a resilient workforce."[61]

Clair and Dufresne propose a variant of organizational resilience theory, which they term "hyper-resilience." Arguing that hyper-resilient organizations cannot just fully recover from a crisis, but also harness it as "a catalyst for positive transformation," they identify six outcomes for hyper-resilient organizations after a crisis: "(1) heightened attention to stakeholder relationships; (2) reasserted or reshaped organizational mission, values and goals; (3) heightened insight into organizational vulnerabilities; (4) issue and market leadership; (5) renovation of deep-rooted organizational structures; and (6) enhanced understanding of the 'wholeness' of organizational life."[62]

In his book *The Four Pillars of High Performance,* Paul Light examines the concept of robustness as an organizational outcome.[63] The robust organization, Light suggests, is set up to cope with increasing uncertainty in the environment. Accordingly, a high-performing, robust organization has four key characteristics: alertness, agility, adaptability, and alignment. Alertness captures the organization's focus on measuring results and establishing performance expectations. Agility is tied to improved communication and the sharing of decision-making authority throughout the organization. Adaptability stems from a better understanding of customer needs and internal performance incentives. Finally, alignment is created through extensive information and technology. These attributes are believed to be key to enabling organizations to be high performing in the face of deep uncertainty.

Crisis Readiness

This study uses the term *crisis readiness* in part because it suggests a desirable, proactive orientation toward crises. In addition, because it is broader than many of the other related terms in use, such as *emergency* or *disaster preparedness, emergency response,* and *disaster recovery,* the term *crisis readiness* encapsulates these other terms. It is thus defined here as *an organization's ability to effectively respond to and recover from external events (such as terrorist attacks and natural disasters), as well as internal events (such as major accidents and financial/funding crises).* In this regard, crisis readiness is the desired end state of organizational preparedness, crisis management, business continuity planning, and other organizational activities and processes.

This study is based on an approach to crisis readiness that is characterized by three key elements. First, it addresses an organization's experience before, during, and after a crisis. Second, it recognizes that crises can originate within the organization. Lastly, it implicitly minimizes the distinction between man-made (or anthropogenic) and natural events.

In the late 1980s, Anne Reilly proposed a "crisis readiness" construct, defining it as "the readiness to cope with the uncertainty and change engendered by a crisis." She further suggested that crisis readiness has six core components, which are related to (1) the organization's ability to

respond quickly to a crisis, (2) managers' awareness of the organization's crisis management repertoire, (3) managers' access to the organization's crisis management repertoire, (4) the adequacy of the firm's strategic crisis planning, (5) the organization's media management ability in a crisis, and (6) the perceived likelihood of crisis striking the organization.[64]

This definition fits well with the work of Lalonde, who conducted an empirical study to determine whether health care organizations in Québec were able to continue to perform their "socio-community mission during the ice storm of 1998."[65] According to her study, it is not sufficient for an organization to recover from a crisis; it must also achieve its mission while addressing the crisis.

III. THE CRISIS-READY ORGANIZATION

Perhaps because organizational crises are so prevalent, many books and materials have been produced that provide guidance to managers on how to prevent, manage, and recover from crises—in other words, how to become crisis ready. There is also an extensive academic literature related to crisis readiness. These scholarly texts focus on a myriad of topics, such as how organizations respond in crisis situations, what types of organizations are at risk of small errors becoming large crises,[66] why preparedness activities often fail to produce actual crisis readiness,[67] and whether communication is a potential leverage point for increasing crisis readiness.[68]

While there are few rigorous, empirical studies of what leads, or even contributes, to crisis readiness, a plethora of studies have sought to identify the activities and organizational characteristics that contribute to crisis readiness. The lack of certainty as to what these activities or characteristics are is due to the fact that such research requires an examination of the same organization—and preferably a large sample of organizations—before, during, and after a crisis has been experienced, and such longitudinal analysis is expensive and, thus, rare.

Activities That Contribute to Crisis Readiness

As crisis readiness describes the objective that organizations are seeking to achieve, it is valuable to review what the experts advise organizations to do to bolster their ability to prevent, manage, and respond to a crisis. (Some of these activities are also addressed in the section further on about the characteristics of crisis-ready organizations.)

Crisis management is arguably the most commonly discussed area of organizational preparation for crises. While there are numerous views of what crisis management is, one of the most accepted models was developed by Pearson and Mitroff, who are leading scholars in the area of organizational crises. These authors maintain that crisis management should proceed through five logical steps: (1) signal detection, (2) preparation/prevention, (3) containment-damage limitation, (4) recovery, and (5) learning.[69] When interviewed by *CIO Insight*, Mitroff provided "best practice" advice on crisis management: he stressed that organizations (1) should not ignore

low-probability, high-consequence events when developing their crisis management plans; (2) should understand the limitations of risk analysis—namely the fact that it doesn't usually include failures in multiple systems simultaneously; and (3) should dedicate one individual to crisis management. This individual does not need to be a "chief crisis officer," but does need to make crisis management (and avoidance) a full-time responsibility.[70]

Disaster management is another, related activity that is advocated by both practitioners and scholars. Romano contends that disaster management includes (1) preparedness planning to assess hazard vulnerability; (2) mitigation activities to reduce hazards in the structure of the facility, its equipment, its operations, and its personnel; (3) response planning to provide for key support operations, such as first aid, search and rescue, building evacuation, emergency communications, and general personnel training; and (4) recovery, in which an organization prioritizes its operations for efficient business continuation and determines how to protect and restore these components.[71]

Business continuity planning (BCP) is a technique that is designed to help organizations quickly return to normal operations after a crisis.[72] Originally, BCP largely focused on ensuring that an organization's data stores would be preserved in the event of a crisis. Now, however, many view BCP as including all essential aspects of the organization.

As stated by Mark Hofmann, the purpose of BCP is to "get critical functions up and running as soon as possible."[73] This activity appears to have roots in redundancy theory and is particularly relevant to technologically complex organizations. Frederickson and LaPorte write that "the full application of the logic of redundancy asks that the parts of the system be loosely coupled or sufficiently independent of each other, so that a failure in one part is an independent event that can be compensated for by the other parts of the system."[74] Thus, BCP can be seen as a critical aspect for the HRO and as a potential means of minimizing the "normal accidents" problem.

Phillip Britt reports that in the aftermath of Hurricane Katrina, some organizations took only eighteen hours to recover while others took many months. He attributes this difference primarily

to the two groups' business continuity and disaster recovery plans.[75] According to Britt, the following steps together constitute best practice BCP:

- Having a plan and putting it in place
- Having a hardened remote location for storing business information
- Deciding what to take to a remote location
- Developing and distributing employee and supplier contact information
- Compiling remote housing information
- Setting up a company-sponsored blog for information sharing
- Conducting automatic data backups using drives rather than tapes
- Preparing for incidents that have no warning (such as power outages) as well as those that come with warning.

For Hofmann, the critical stages in the development of BCP are quite different. He focuses on a "preplanning" phase, in which the architects of the plan "get commitment, start the project, establish budget, identify and analyze risks, vulnerabilities, and potential impacts"; a "planning" phase, in which participants "review existing emergency procedures, develop BCP strategy, and write the plan"; and finally a "post-planning" strategy, which involves making the plan accessible to staff, and developing and implementing testing and maintenance strategies.[76]

While some suggest that there is a direct link between managerial activities, such as crisis and disaster management, and BCP, this review asserts that crisis readiness is a function not just of crisis readiness activities but also of the organization's characteristics. This model is depicted in Figure 1.

Crisis readiness activities

→ Degree of crisis readiness

Organizational characteristic

Figure 1. Proposed Model of Crisis Readiness

Characteristics of the Crisis-Ready Organization

Some scholars acknowledge that simply developing and implementing a crisis management plan, or something like it, is not sufficient for organizations to be fully crisis ready. For example, Mayer Nudell and Norman Antokol contend that organizations must have a proactive posture; merely responding to a crisis is not enough.[77] Alexandros Paraskevas also maintains that a detail crisis management plan "does not necessarily guarantee an effective crisis response."[78]

Practitioners confirm this view that a plan is not enough. A 2005 survey of disaster management conference attendees sought to identify what the most prepared companies were doing to raise the crisis management bar. Among the most commonly cited actions were "taking a portfolio approach to risk and crisis," "taking a holistic, not piecemeal approach (i.e., focusing on risk assessment, prevention/mitigation, preparedness, response, and recovery)," "involving employees in crisis planning," and "adopting a continuous improvement approach to emergency planning, rather than viewing it as a "project to complete."[79]

Given these and other concerns about a singular focus on a crisis plan, a host of researchers have sought a deeper inventory of organizational factors that might underpin successful planning. For example, Neil Grigg asserts that "surviving disasters requires management attributes that include leadership, competence, preparation, a healthy organization, equipping of staff, strong relationships, and financial commitment."[80]

The Public Entity Risk Institute's 2001 publication *Characteristics of Effective Emergency Management Organizational Structures* identifies a set of twenty characteristics that are particularly important to those organizations responsible for helping communities respond to and recover from crises and emergencies.[81] In addition to advice to governments, businesses, and nonprofit agencies, the list includes easy-to-implement characteristics such as strong and definitive chains of command, similar organizational structures for both routine events and disasters, good interpersonal relationships within each organization, ongoing emergency

management planning, an “all-hazard” approach that addresses the entire range of potential threats, motivation for involvement in the emergency management program, public-private cooperation, and internal alerting procedures. Although originally designed for government agencies, most of the items are equally relevant for all organizations, big or small.

Finally, New York University’s Center for Catastrophe Preparedness and Response has sponsored a wide range of research designed to strengthen organizational performance, and the university’s International Center for Enterprise Preparedness is working closely with the federal government and businesses to develop a set of standards for promoting industry standards through the Voluntary Emergency Preparedness Standard. This standard covers everything from hazard identification to planning, direction, control, coordination, operations and procedures, communication, finance, exercises, evaluations, and corrective actions.

To address the organizational characteristics of crisis-ready organizations, this section organizes those characteristics into four categories, which inspired the work of Light on organizational capacity in the nonprofit sector.[82] These categories—external relationships, internal structure, leadership, and management systems—capture the majority of organizational elements. An important caveat, however, is that, for the most part, it is not clear whether these characteristics actually contribute to crisis readiness or are merely associated with crisis readiness by little more than a hunch.

One characteristic that these categories do not capture is organizational performance, in part because performance is generally seen as an outcome of crisis readiness and other characteristics. At least for this study, however, it is important to regard performance as a potential characteristic of readiness—that is, to see high performance as a precursor to readiness, just like growth, profitability, structure, and leadership.

External Relationships

Managing external relationships effectively is an important part of organizational life. Crisis-ready organizations should focus particularly on monitoring trends in their external environments

and assessing potential risks, and on managing stakeholder relationships. Organizations that do not pay attention to potential threats can hardly design effective responses.

Numerous authors discuss the importance of environmental monitoring and risk assessment. Some stress the importance of predicting and preparing for risks. Shiravasta and Mitroff encourage the development of an organizational early warning system, and Chong embraces ongoing vigilance and managerial sensitivity.[83] Paraskevas states simply that "effective crisis planning aims at identifying the early warning signals for the crisis."[84] Thus, the crisis-ready organization must closely observe its environment so as to be able to predict crises before they affect the organization.

Other scholars encourage organizations to engage in scenario planning in order to be crisis ready.[85] Scenario planning is "in essence, concerned with developing innovative but plausible 'what-if' detailed and rigorous narratives and subsequently designing strategic measures to meet those eventualities."[86]

Managing relationships with stakeholders also appears to be tied to crisis readiness. Stakeholders are generally thought of as those individuals who may be affected by an organization or have the ability to influence it. Grigg encourages planning for interorganizational as well as intraorganizational coordination; William Kelly specifically recommends managing relationships with external experts and getting them involved early.[87] Facilitating communication flows with external audiences is also deemed important for crisis readiness.[88]

Frequently mentioned external/environmental characteristics

Monitoring trends in the external environment

Engaging in scenario planning

Developing an early warning system and engaging in risk assessment

Actively managing relationships with important stakeholders inside and outside of the organization (stakeholder management)

Frederickson and LaPorte state that HROs must be particularly attentive to the following external relationship issues: (1) the "visibility or salience of the high-reliability system to the governing body or bodies," (2) the "presence of stakeholder groups in the governing body or bodies," (3)

the "presence of stakeholder groups in the high-reliability organization," and (4) a "mechanism for managing boundaries between the high-reliability system and governance, often in the form protecting the system and its technology from external influences and buffering the effects of contextual turbulence."[89] The accompanying sidebar list some of the key external/environmental characteristics summarized in the literature.

Internal Structure

Internal structural factors are widely seen as contributing to an organization's crisis readiness. The most frequently mentioned issues concern teams, diffusion of authority throughout the organization, the designation of one individual or team who is primarily responsible for crisis readiness, and communication flow. Issues concerning organizational culture are also often considered in discussions about crisis readiness.

Scholars agree that team building[90] and team management[91] play a role in organizational crisis readiness, but they do not fully specify how these activities enhance readiness.

Sharing authority throughout the organization is often identified as an important component of organizational crisis readiness. Robert Littlejohn terms this "delegation of authority," while Perrow describes it more as empowering subordinates to take independent action.[92] These are conceptual equivalents. Some scholars, however, stress that flexible environments in which authority is shared do not have a defined chain of command. For example, Frederickson and LaPorte specify that while the HROs they studied did not lack formal chains of command, such hierarchies did not operate at all times.[93]

Frederickson and LaPorte also identify "flexible decision-making processes involving operating teams and "collegial, decentralized authority patterns in the face of high-tempo operational demands" as being critical.[94] Other scholars stress the importance of ensuring that that decisions can be made quickly and appropriately during crises.[95] Larry Mallak connects shared decision making to organizational resilience.[96]

Designating responsibility for crisis readiness to a specific individual or team is a recurrent theme in the academic and practitioner literatures.[97] *CIO Insight* specifies that there should be at least one dedicated, full-time staff person for crisis management; Grigg takes a somewhat different tack by recommending that organizations create a matrix management structure that allows for a specific set of lines of authority for emergency preparedness and response; and Hofmann argues that each business area should take ownership of preparing itself.[98]

As many organizational scholars view communication as revealing the true structure of the organization,[99] communication is included in this section. Shrivastava and Mitroff argue that organizations should be structured in ways that decrease miscommunication, while many other authors encourage structuring the organization so as to facilitate open and fast communication.[100] Scholars argue for facilitating smooth communication both internally[101] and externally.[102]

As mentioned at the beginning of this section, establishing the right organizational culture and values has also been viewed as essential to becoming a crisis-ready organization. Many authors state that the organization needs to adopt a culture that values crisis management.[103] In their work, Pearson and Clair found this to be one of the most important variables in ensuring crisis readiness, Coutu found values to be central to organizational resilience, and Horne found that "a shared sense of organizational purpose/mission and interactive planning consistently appear as critical success factors in the continued resilience of organizations."[104]

Frederickson and LaPorte, as well as other scholars, stress the need for a culture of safety and reliability, for a "strong, shared sense of mission valence that includes a collective commitment to highly reliable operations in terms of both safety and production." They note that "norms of attention to the equal importance of system performance and safety" appear often in the HROs they study, and that "patterns of high career and individual identification with organizational purposes are standard."[105] From her literature review, Lalonde concludes that readiness for disaster is highly correlated with a "culture promoting prevention as much in the organizations that have to manage disasters as for the populations that are likely to live them."[106]

It is also important for organizations that operate high-risk technologies to have a culture that welcomes error reporting. Frederickson and LaPorte discuss establishing "processes that reward error discovery and reporting and a continual search for system improvement."[107] However, for an organization to choose to adopt these processes, there must be a culture in place that values continuous improvement. Clair and Dufresne, in their work on hyper-resilient organizations, suggest that what is needed is a cultural shift that leads to what Peter Senge calls double and triple loop learning, as well as experimentation with learning structures.[108]

James and Wooten suggest that in the "typical sequence of events" after a crisis, the "firm scrambles to contain the crisis [and the] crisis is eventually resolved." They describe a contrasting "learning approach," which includes, in addition to the elements of the typical sequence, "an explicit attempt by firm leadership to understand the underlying organizational factors contributing to the crisis and then leveraging this insight to facilitate fundamental change in firm systems and procedures."[109] This, again, requires a specific organizational culture that values learning.

Frequently mentioned structural characteristics

Building strong teams within the organization and managing them well

Sharing authority throughout the organization by empowering subordinates while still maintaining a strong chain of command

Creating flexible and efficient decision-making processes

Designating responsibility for crisis readiness to one individual or a specific team

Organizing for fast, accurate, and efficient communication flows

Adopting an organizational culture that values crisis management, safety, and resiliency

Engaging in continuous improvement and learning

Encouraging creative solution development

Building in structural redundancy

Another cultural factor, mentioned by the highly regarded organizational scholar Karl Weick and others studying organizational resilience, is *bricolage*. Coutu defines this as the "ability to improvise a solution to a problem without proper or obvious tools or materials." She clearly establishes that this does not replace the need for organizational rules, which enable "people to focus on the one or two fixes they [need] to

make in order to keep going."[110] However, the capacity to be flexible and to improvise is evident in organizations (and individuals) that are resilient in the face of internal and external shocks.

As noted earlier in this section, HROs bolster their ability to withstand crises through the development of structural redundancy.111 While many smaller organizations may not find this to be feasible, it is one of the most assured ways of increasing an organization's ability to withstand a crisis. The accompanying sidebar lists some of the key structural characteristics that are often discussed in the literature.

Leadership

Many scholars agree that leadership is important for crisis readiness.[112] Discussions of the role of leadership in crisis readiness include the importance of management buy-in and commitment,[113] which often centers on the allocation of adequate resources to crisis readiness. According to Frederickson and LaPorte, "adequate funding is the imperative upon which all other properties of highly reliable operations depend."[114] They observe that it is often the high-profile nature of an error (or crisis) in a HRO that motivates the public to allocate sufficient funds to those organizations. After the crisis passes, funding levels erode, which then creates the climate for error and an ensuing crisis.[115] Alan Meyer and Sarah Kovoor-Misra also link resource availability and quick commitment of resources to crisis readiness,[116] and in their empirical investigation of the airline industry after 9/11, Jody Hoffer Gittel and colleagues found that having adequate financial reserves contributes to organizational resilience.[117]

William Kelly takes a different tack, noting that management buy-in is not sufficient on its own; instead, "the best use of executive management support is in institutionalizing continuity considerations into the business/systems."[118] This suggests that the role of the leader in instilling crisis readiness is to ensure that the organization's operations are structured and managed so that the concerns of the community are fully addressed. The benefits of this sort of approach may not be fully realized until a crisis has occurred.

Frequently mentioned leadership characteristics

Generating buy-in and commitment

Getting adequate resources for crisis readiness

Institutionalizing concerns of the community and other stakeholders

Recruiting and motivating a high-caliber workforce

Implementing sound day-to-day business management practices

Taking a comprehensive approach to crisis readiness, and bridging gaps within the organization and between the organization's members and stakeholders.

Visioning a "business-anew paradigm"

Developing trust within the organization

Conducting vulnerability assessments

Not letting risk aversion drive all decisions

Actively engaging in learning

Being aware of the special role of the leader

Leadership also entails finding and recruiting the best possible workforce, and then keeping employees motivated. Grigg suggests that a "trained and motivated staff" is important for crisis readiness, while Frederickson and LaPorte link a highly technically competent staff to the successful performance of HROs.[119]

Another leadership characteristic of crisis-ready organizations is a deep appreciation for good management. Carolyn Smart and Ilan Vertinsky have looked at policies and procedures that lead to good day-to-day management and linked them to crisis readiness.[120] Additionally, the crisis leader needs to engage the whole of the organization in crisis readiness; Grigg states definitively that "the entire organization should be engaged in disaster preparedness planning."[121] Yet there is a risk to this comprehensive approach in that different people in an organization may have very different understandings of what crisis readiness is and what steps are necessary to achieve it. This problem is magnified when organizations bring external stakeholders into the planning process. The leader's role in this scenario is to bridge any gaps in understanding.

James and Wooten have developed a new concept of crisis leadership, one that differs from crisis management. They maintain that crisis leadership is one of the important factors that enable organizations to emerge from a crisis in an improved state, and that what characterizes effective crisis leadership is the ability "to consider both short and long-term recovery efforts and to think beyond the business-as-usual paradigm to a business-anew paradigm."[122] The authors argue that crisis leadership requires developing trust within the organization, considering all stakeholders during a crisis, doing a thorough vulnerability assessment, not outsourcing key decisions to experts, not letting risk aversion drive all actions, and actively engaging in learning.

The following sidebar lists some of the key characteristics of leadership as summarized in the literature.

Management Systems

Internal management systems include the information technology, staff training, and financial systems used by an organization. A number of organizational systems are identified in the literature as being connected to organizational crisis readiness. One of the foremost of these is strategic planning.

As discussed above, developing and implementing crisis management and disaster management plans are key activities that are believed to enhance crisis readiness and should be done by the organization as a whole. Management should make sure that all critical business processes are crisis ready, including such organizational areas as brand management, research and development, and public relations, which are often omitted from crisis readiness planning.[123] Risk and vulnerability assessments are also "important analytical steps in disaster preparedness."[124]

Many authors identify incorporating crisis readiness into the strategic management process as critical.[125] Chong notes that "crisis management is a critical part of contemporary strategic

management."[126] Others specify that crisis readiness should be integrated into the business planning process, which, of course, should be centrally tied to the strategic planning process.[127] In addition, Shrivastava and Mitroff state that strategic plans should explicitly include a strategy for ensuring safety in the organization.[128] The view that crisis readiness should be incorporated into the strategic plan is not at all surprising, given that the organization's strategy drives the organization's activities. If crisis readiness is not expressly included in the strategy, it is not likely to be made a priority.

Other management systems that are linked to crisis readiness are staff training and exercises. Along with the development of a crisis management plan and a crisis management team, this is one of the most frequently mentioned recommendations in the literature. Grigg stresses that organizations should "conduct regular (e.g. twice per year) training and exercises for all levels of an agency's response organization" and that crisis drills are a critical tool for ensuring transference of "lessons learned."[129] Many practitioners agree. For example, John Copenhaver, former regional director for the Federal Emergency Management Agency and current president and chief executive officer of Disaster Recovery Institution International, recommends conducting "some exercise at least twice a year, and after any significant change in the entity structure."[130] Simon Perry, vice president of security strategy at Computer Associates, concurs. He notes that it isn't enough to have "business continuity and recovery plans in place, you have to test them, but you'd be surprised how many organizations don't." Also, unless tests are stringent and realistic, they are not valuable.[131] In high-resilience organizations, training is also critical, and, according to Frederickson and LaPorte, must be regular and continuous.

The consequences of inadequate training are substantial. As Grigg warns, if the workforce has not been sufficiently trained in how to prepare and respond to a crisis, a "great plan…may not work in an emergency."[132]

In addition to specific crisis planning and response training, some authors suggest that a strong, general workforce training program can enhance crisis readiness. This is because training helps to develop the trained and highly competent pool of employees that such authors as Grigg and

Frederickson and LaPorte link with crisis readiness. Others have suggested that leadership training can also assist with disaster management.[133]

According to Anice Anderson, Dennis Compton, and Tom Mason, project management systems are also "vitally important for successful emergency response coordination and major security initiatives during any large-scale emergency response."[134] Additionally, there should be systems in place that help organizations determine what is working and what is not.

Practitioner authors and some executives who have experienced large-scale crises strongly advocate developing and implementing business continuity plans. Having redundant systems in off-site locations, a central factor of BCP, aids in recovery from a crisis. Anecdotal support for this recommendation comes from the former CEO of the Security Traders Association, who was in the World Trade Center on 9/11. He was quoted as saying,

> [T]he big firms—the Merrill Lynches, the Goldman Sachs, and people like that…can afford to send all their records to Stone Mountain, Georgia, or other safe locations around the United Sates. And that's good if the firm is that size. But for a smaller entity, as we were, I think one has to make some kind of different arrangement so that the firm does have a backup capability outside of the business location.[135]

The accompanying sidebar lists some key characteristics of management systems reported in the literature.

Frequently mentioned management characteristics

Developing and implementing crisis management/disaster management plans

Incorporating crisis readiness into the strategic management process, the strategic plan, and the overall business planning process

Engaging in a crisis management planning process and regularly updating the plan

Engaging in risk and vulnerability assessment

Increasing staff crisis readiness through regular crisis drills

Ensuring that the organization has sufficient general workforce training programs in place

Rewarding error detection and reporting

Implementing robust project management systems

Providing redundant, off-site locations to ensure continuity of operations

IV. SURVEY

Given the long list of potential interventions cited in the crisis management literature for improving organizational readiness, governments, businesses, and nonprofit agencies have ample reason to be confused about what matters most for crisis readiness. After all, some researchers argue that organizational characteristics such as a commitment to training is the most essential element of success, others encourage clear chains of command and team building, and still others stress learning and adaptation. The confusion is only exacerbated by the tendency to list characteristics in packages that require a broad spectrum of interlinked interventions, which organizations may find overwhelming in their demand for resources such as attention and funding.

The project reported on here is based on a simple study intended to identify the core characteristics of the crisis-ready organization. Drawing on subscriber lists from three publications—*Governing*, *MIT Sloan Management Review*, and *Chronicle of Philanthropy*—that are leading platforms for reaching opinion leaders in state and local governments, businesses, and nonprofit agencies, Princeton Survey Research Associates International contacted a random sample of 4,000 opinion leaders by e-mail during the summer and early fall of 2006. Response rates within the sample were disappointing but not unusual for an Internet survey. Of the 4,000 potential respondents, 468 actually completed the survey, yielding a 12 percent response rate. The margin of error in the sample was +/–5 percent. Unfortunately, response rates were too small in each sample subcomponent to allow for separate analyses of crisis readiness in governments, businesses, and nonprofit agencies.

As the study found, **many organizational characteristics seem essential to perceived crisis readiness when analyzed one-on-one, but only a relatively small number matter when pitted against each other in a statistical tournament of significance by brackets that include external relationships, internal structure, leadership, management systems, and crisis readiness systems.** The study first analyzed these characteristics, or predictors, to determine their importance within each of the five brackets. The significant predictors were then pitted

against each other in a final tournament. As the analysis shows, some characteristics matter directly to crisis readiness, while others matter only indirectly or not all.

Questions of Interest

The survey asked respondents to focus on a single organization that they knew well, be it their own organization or another. They were then asked a series of questions dealing with crisis readiness, including questions about internal resources and planning for crisis as well as about how the organization deals with its external relationships, internal structure, leadership, and management systems. Respondents were also asked a set of basic questions about the organization's size, scope, sector, and growth.

The study depended on each respondent's level of knowledge about their selected organization. By asking each respondent to think about a "whole organization," the survey focused on the organization as the unit of analysis. It also sought to limit guesswork by allowing respondents to pick their own organizations as the focus of their answers, and by targeting senior executives at *Governing* and the *Chronicle of Philanthropy*. Unfortunately, the *MIT Sloan Management Review* does not sort its mailing list by level of organizational title.

Nevertheless, 86 percent, 72 percent, and 50 percent of respondents in government, business, and nonprofit agencies, respectively, consisted of chief executives and other senior managers, while another 10 percent, 22 percent, and 23 percent, respectively, consisted of middle managers. Although middle managers may not have the perspective to rate every aspect of their organizations, their responses were included in the results discussed below, as were those of individuals who were simply readers of the given publications.

The assumption was that readers of these three publications were highly likely to understand the main issues in the study. As if to confirm this assumption, more than half of the respondents had a master's degree or doctorate, including 55 percent of the *Chronicle of Philanthropy* sample; and all but a handful of the rest had college degrees. The hope, although unconfirmed, was that the high school graduates who completed the survey filled it out with the help of their

supervisors. It was also assumed that middle managers in the nonprofit sector were more likely than their peers in government and business to know their organizations well, in part because their organizations are consistently smaller in budget and number of employees.

Searching for Differences

Even though this study was limited by the sample and response rates, it nonetheless reveals a number of important tendencies in crisis readiness. At least at a preliminary level, it shows that much of the literature on crisis readiness is accurate when each component of perceived crisis readiness is viewed separately. In other words, in and of themselves, external relationships, structure, leadership, and internal management systems all matter to crisis readiness, as do efforts to prepare for a crisis by creating a positive climate for preventing and reacting to threats. Again, it is no wonder that organizations might ask what does and does not matter most to readiness; even this survey generated a long list of statistically significant advice.

Place and Time

Before turning to the components of crisis readiness, it is important to examine the role of place and time in preparing for crisis.

1. Government organizations were deemed to be much more ready for crisis than either businesses or nonprofit agencies. Fifty-one percent of organizations that respondents deemed very ready for crisis were located in government, compared with just 20 percent and 29 percent of businesses or nonprofit agencies, respectively (Table 3). Government has been under great pressure to improve its readiness, of course, but this shows in the survey. Businesses have been under great pressure, too, but only a fifth of the respondents rated them as very ready or even somewhat ready. In contrast, nonprofits have generally been left out of the conversation about crisis readiness, despite their obvious role after the September 11th terrorist attacks and Hurricane Katrina as key intermediaries in delivering aid. When citizens turn to their community organizations in crisis, government is the one most likely to be able to respond.

Table 3. Readiness by Sector

Sector	Very ready, %	Somewhat ready, %	Not ready, %
Government	51	44	15
Business	20	21	29
Nonprofit	29	34	56

Note: Percentages may not sum to 100 percent because of rounding, or because respondents answered "don't know" or did not give a response to the question.

2. High-performing organizations were more likely to be rated as very ready for crisis, suggesting a tight linkage between an organization's overall excellence and its crisis readiness. Seventy-two percent of the organizations rated as very ready for crisis were also rated as very high performing in achieving their mission, whatever their mission might be, compared with just 39 percent and 23 percent of the organizations rated as somewhat ready or unready, respectively (Table 4). As the survey shows, high performance appears to be a strong predictor of many of the key factors in crisis readiness, including having the resources to engage in crisis planning and practice.

Table 4. Overall Performance of the Organization

Performance rating	Very ready, %	Somewhat ready, %	Not ready, %
Very high	72	39	23
Somewhat high	27	55	59
Somewhat poor	0	6	13
Very poor	1	0	5

3. High-growth organizations were more likely to be judged as being very ready for crisis than their slower-growing peers, suggesting that growth may generate the resources needed for creating high performance. Although organizational size does not have a strong relationship with crisis readiness, growth clearly does. Eighty-one percent of the organizations rated as very ready for crisis had either rapid or steady growth over the five years before the survey, compared with just 65 percent and 58 percent of the organizations rated by respondents as somewhat ready or unready for crisis, respectively (Table 5). This growth and an organization's general diversification may provide the flexibility needed to carve out the time and resources needed for effective responses to crisis.

Table 5. Level of Growth in Past Five Years

Growth level	Very ready, %	Somewhat ready, %	Not ready, %
Rapid	23	17	15
Steady	58	48	43
Little or no	17	28	34
Steady contraction	1	4	7
Rapid contraction	1	1	1

Note: Percentages may not sum to 100 percent because of rounding, or because respondents answered "don't know" or did not give a response to the question.

4. Organizations that were perceived as vulnerable to—or had actually experienced—some form of internal crisis, such as a major accident or a financial/funding crisis, were actually less likely to be rated as very ready, suggesting that many organizations simply do not respond to their own perceived weaknesses. Only 55 percent of the organizations that were rated as very ready for internal crisis were also rated as being highly or somewhat vulnerable to internal crisis, as were 68 percent and 76 percent of the organizations rated as being somewhat ready or unready, respectively (not shown). Similarly, organizations that have actually experienced an internal crisis were neither more nor less ready for the experience than those considered roughly three in five of organizations rated as very, somewhat, or not too ready for crisis had either been through an internal crisis or been threatened by one (see Table 6).

Table 6. Involved in or Threatened by Internal Crisis

	Threatened by internal crisis		
	No.	Very ready,%	Somewhat ready, %	Not ready, %
Yes	52	51	59
No	35	51	36
Not sure	8	12	4

Note: Percentages may not sum to 100 percent because of rounding, or because respondents answered "don't know" or did not give a response to the question.

5. However, organizations that had experienced some form of external crisis, such as a terrorist attack or a natural disaster, had much higher levels of readinessimately, it appears to be the actual experience of a crisis that motivates greater preparedness, suggesting that advocates of

preparedness would be wise to build campaigns for improvement around case studies of the real-world experiences of actual organizations. Pitted against each other in a statistical tournament using simple linear regression, place and time clearly matter to crisis readiness. The significance of a given measure and crisis readiness is set at the 0.05 level, meaning that readers can be 95 percent confident that the relationship between a given measure and crisis readiness is not random. Table 8 shows the effects in this round of the statistical tournament.

Table 8. Place and Time and Crisis Readiness

Measure	Significant predictor of readiness?
Organization is governmental	Yes
Organization's performance is rated as high	Yes
Organization has experienced high growth	No
Organization is vulnerable to internal crisis	No
Organization has been threatened by internal crisis	No
Organization is vulnerable to external crisis	Yes
Organization has been threatened by external crisis	Yes

These results produce an adjusted R^2 of 0.294, which is significant at the .000 level, meaning that the package of measures is highly predictive.

Once again, viewed separately in one-to-one relationships with crisis readiness, almost every measure seems to matter, which may explain why organizations might be confused about where to begin their journey to improvement. Growth is a powerful one-on-one predictor of readiness, for example, but it is not a significant predictor when compared with the other factors in Table 8.

External Relationships

External relationships involve an organization's approach to managing its environment. As already noted, for example, crisis-ready organizations appear to use their past real-world experience as a driver for improvement.

A strong position in the outside world involves a clear mission. Many organizations are so diffuse that they cannot accurately describe themselves, let alone focus their internal activities on any form of crisis readiness. However, the organizations described in this survey all had generally clear missions.

Where they differed was on at least three measures of external relationships: the organizations rated as being very ready for crisis were much more likely to (1) use objective measurements to assess their performance, (2) regularly survey their clients or customers, and (3) monitor trends that might affect their mission. Although these were generally best practices in very, somewhat ready, and unready organizations, the organizations that were very ready for crisis were consistently higher on all three measures:

- Ninety-two percent of these organizations reportedly used objective measurement, compared with 77 percent and 64 percent of their less prepared and unprepared peers, respectively.
- Ninety-one percent of these organizations monitored trends that might affect their mission, compared with 81 percent and 82 percent of their less prepared and unprepared peers, respectively.

1. The organizations rated as very ready for crisis not only were more likely to monitor trends that might affect their mission, but also were far more likely to look further out into the future. Ninety-one percent of organizations that were rated very ready for crisis reportedly monitor trends, compared with 81 percent and 82 percent of organizations rated somewhat ready or not ready, respectively (Table 9). Whereas 55 percent of the organizations rated as unready looked only one to three years into the future, 59 percent of those rated as very ready looked four years or more into the future, including 26 percent that looked six to ten years out (not shown).

Table 9. Monitoring Trends in General

Monitor trends	Very ready, %	Somewhat ready, %	Not ready, %
Yes	91	81	82
No	1	10	16
Not sure	8	9	3

Note: Percentages may not sum to 100 percent because of rounding, or because respondents answered “don’t know” or did not give a response to the question.

The crisis-ready organizations were also far more likely to actively monitor potential threats. In one of the most significant findings of the survey, 74 percent of these organizations were described as being actively involved in monitoring threats specifically, compared with just 52

percent and 28 percent, respectively, of the organizations rated as less ready or unready for crisis (Table 10). The crisis-ready organizations were also much more likely to build crisis readiness into their strategic plans: 77 percent of the respondents said that doing so is very important to the crisis readiness of the organizations they picked, compared with 65 percent and 53 percent of those selecting organizations considered less ready or unready for crisis (not shown).

Table 10. Monitoring Threats Specifically

Monitor threats	Very ready, %	Somewhat ready, %	Not ready, %
Yes	74	52	28
No	13	32	66
Not sure	25	15	6

Note: Percentages may not sum to 100 percent because of rounding, or because respondents answered “don’t know” or did not give a response to the question.

These organizations also differed on key measures of their external relationships when addressing the environment in general. The organizations rated as very ready were more likely to operate in what respondents described as a very turbulent environment, for example (Table 11). And, as already noted, these organizations were less likely to describe themselves as highly vulnerable to either internal or external crises.

Table 11. Extent of Turbulent Environment

Turbulence rating	Very ready, %	Somewhat ready, %	Not ready, %
Very turbulent	14	6	13
Somewhat turbulent	44	39	34
Not too turbulent	32	39	41
Not at all turbulent	9	15	9

Note: Percentages may not sum to 100 percent because of rounding, or because respondents answered “don’t know” or did not give a response to the question.

At least by these measures, organizations that committed to managing their outside world were deemed much more ready for crisis than their peers. But while the relationships may be significant and do seem to show that an externally prescient organization tends to be more crisis ready than one that is less attuned to the external environment, readers are forewarned that this

characteristic may not be the most important one in actually maintaining a crisis-ready posture. Once again pitted against each other in a statistical tournament, not all of these measures emerge as significant, as shown in Table 12.

Table 12. External Relationships and Crisis Readiness

Measure	Significant predictor of readiness?
Organization has a clear mission	No
Organization used objective measurement	No
Organization regularly surveys clients and customers	Yes
Organization monitors trends in the future	No
Organization incorporates crisis readiness into strategic plan	Yes
Organization actively monitors threats	Yes

These results produce an adjusted R^2 of 0.251, which is significant at the .000 level.

Internal Structure

Internal structure involves the basic organizational dimensions of a government, business, or nonprofit agency. How tall is it? Does it encourage staff to work in teams? What is its basic operating structure?

Much as one might suspect such measures to have a significant impact on crisis readiness, most of the organizations identified in this study operate with few layers of management, give their employees authority to make routine decisions on their own, encourage units within the organization to work together, and have clear chains of command for executing decisions.

This is not to suggest that there are no differences across the very ready, somewhat ready, and unready organizations, however. The organizations rated as unready were consistently the least likely to use these best practices:

- Seventy-one percent of these organizations reportedly gave employees authority to make routine decisions on their own, compared with 86 percent of the very ready organizations.
- Seventy-nine percent of these organizations reportedly encouraged units within the organization to work together, compared with 95 percent of the very ready organizations.

- Seventy-two percent of these organizations reportedly had clear chains of command for executing decisions, compared with 97 percent of the very ready organizations.
- Forty-four percent of these organizations reportedly had very competent employees, compared with 76 percent of the very ready organizations.

Beyond these best practices, the very ready organizations were much more likely to provide adequate investment in crisis readiness, reserving resources for becoming prepared. Eighty percent of the respondents said that adequate investment was very important to the very ready organization's ability to respond to external and internal crises, compared with 53 percent and 39 percent of those describing the less ready and unready organizations described in the sample (Table 13).

Table 13. Importance of Adequate Investment in Crisis Readiness

Importance	Very ready, %	Somewhat ready, %	Not ready, %
Very important	80	53	39
Somewhat important	19	38	28
Not too important	1	8	21
Not at all important	0	1	10
Not sure	0	1	2

Note: Percentages may not sum to 100 percent because of rounding, or because respondents answered "don't know" or did not give a response to the question.

As with the measures of external relationships, some of these measures emerge as particularly significant when pitted against each other in predicting crisis readiness, while others drop to insignificance. Each may have some significance when pitted against crisis readiness on its own, but some simply cannot survive a statistical tournament. Table 14 shows the results of this bracket in the statistical tournament.

Table 14. Internal Structure and Crisis Readiness

Measure	Significant predictor of readiness?
Organization has few layers of management	No
Organization gives authority to make routine decisions	No
Organization encourages units to work together	Yes
Organization has clear chains of command	Yes
Organization's employees are rated as competent	Yes
Organization makes adequate investment in crisis readiness	Yes

These results produce an adjusted R^2 of 0.216, which is significant at the .000 level.

In addition to organizational mechanics and impressions of innovativeness and resource deployment, internal structure also involves the organizational culture, which can be seen as the product of external relationships, structure, leadership, and management systems combined. At least for the purposes of this survey, culture was measured through three items.

First, respondents were asked whether the culture of the organizations they described was *competitive.* All totaled, 71 percent of the organizations deemed very ready were rated as very or somewhat competitive internally, compared with 54 percent of the somewhat ready organizations and just 44 percent of the unready organizations (Table 15).

Table 15. Competitive Culture

Describes organization	Very ready, %	Somewhat ready, %	Not ready, %
Very well	26	12	14
Somewhat well	45	42	30
Not too well	16	28	35
Not at all well	8	12	18
Not sure	4	4	3

Note: Percentages may not sum to 100 percent because of rounding, or because respondents answered "don't know" or did not give a response to the question.

Second, respondents were asked how well *"results-driven"* described the internal culture of their organization. On this measure, their answers produced a significant difference across the three levels, with 54 percent of the organizations rated as very ready described as having a very

results-driven culture, compared with 39 percent and 24 percent of the less ready and not ready organizations, respectively (Table 16).

Table 16. Results-Oriented Culture

Describes organization	Very ready, %	Somewhat ready, %	Not ready, %
Very well	54	39	24
Somewhat well	38	48	54
Not too well	8	10	14
Not at all well	0	2	8
Not sure	1	1	0

Note: Percentages may not sum to 100 percent because of rounding, or because respondents answered "don't know" or did not give a response to the question.

Third, respondents were asked whether a culture of *continuous improvement* was important to readiness for internal and external crises among the organizations they chose. This measure also produced significant differences between the three types of organizations: a culture of continuous improvement was considered very important for 77 percent of the very ready organizations, compared with 65 percent and 53 percent of the less ready and not ready ones (Table 17).

Table 17. Importance of a Culture of Continuous Improvement

Importance	Very ready, %	Somewhat ready, %	Not ready, %
Very important	77	65	53
Somewhat important	16	25	32
Not too important	3	9	8
Not at all important	2	2	5
Not sure	0	0	2

Note: Percentages may not sum to 100 percent because of rounding, or because respondents answered "don't know" or did not give a response to the question.

Finally, respondents were asked whether the organizations they had chosen to describe were *innovative*, which reflects a culture of risk taking and experimentation. Whereas 40 percent of the organizations rated as very ready were also rated as highly innovative, only 22 percent and 20 percent of their less ready and not ready counterparts shared that distinction (Table 18).

Table 18. Innovativeness of Organization

Rating	Very ready, %	Somewhat ready, %	Not ready, %
Highly innovative	40	22	20
Somewhat innovative	55	60	51
Not very innovative	4	16	23
Not at all innovative	0	1	5
Not sure	1	0	1

Note: Percentages may not sum to 100 percent because of rounding, or because respondents answered "don't know" or did not give a response to the question.

The question for this study is whether any of these measures matter to crisis readiness when pitted against each other. As Table 19 shows, all four emerge as significant predictors.

Table 19. Internal Culture and Crisis Readiness

Measure	Significant predictor of readiness?
Organization has a competitive culture	Yes
Organization has a results-driven culture	Yes
Organization has a culture of continuous improvement in crisis readiness	Yes
Organization is rated as innovative	Yes

These results produce an adjusted R^2 of 0.110, which is significant at the .000 level.

Leadership

Leadership is often seen as the sine qua non of crisis readiness. After all, it is one thing to express concerns about readiness, and quite another to show consistent commitment to investing key resources in actual preparedness. Moreover, it is one thing for an organization's leaders to show their own commitment to the kind of leadership that drives high performance, and another for its leaders to ignore the kinds of best practices described earlier in this paper.

As with the other measures of organizational capacity already listed, leadership clearly matters to crisis readiness when tested against individual measures. Thus, to the extent that an organization's senior officers have a shared vision of the organization's mission, perceived crisis readiness increases. Whereas 91 percent of the respondents who rated their selected

organizations as very ready reported that the senior leadership had a shared vision, 82 percent and 64 percent of the less ready and not ready organizations, respectively, were considered to have that attribute (Table 20).

Table 20. Shared Vision

Leadership shares vision	Very ready, %	Somewhat ready, %	Not ready, %
Yes	91	82	64
No	4	9	22
Not sure	4	7	13
No response	0	1	1

Note: Percentages may not sum to 100 percent because of rounding, or because respondents answered “don’t know” or did not give a response to the question.

The same relationship held for the other leadership measures tested in the exploratory survey. Among the organizations rated as not ready,

- Thirty-seven percent reportedly did not ask employees for input in key decisions, compared with 22 percent of the very ready organizations
- Twenty-two percent did not encourage employees to work in teams, compared with just 2 percent of the very ready organizations
- Thirty-three percent reportedly did not foster open communication and dissent within their organizations, compared with 24 percent of the very ready organizations
- Thirty-two percent reportedly did not have charismatic leaders, compared with just 15 percent of the very ready organizations
- Thirty-nine percent reportedly did not have visionary senior officers, compared with 61 percent of the very ready organizations.

Senior leadership commitment to crisis readiness is clearly seen as a determinant of success: 94 percent of the respondents who described a very ready organization said that senior leadership commitment to crisis readiness was very important, compared to just 78 percent and 58 percent among the organizations rated as less ready and not ready, respectively (Table 21).

Table 21. Importance of Senior Leadership Commitment

Importance	Very ready, %	Somewhat ready, %	Not ready, %
Very important	94	78	58
Somewhat important	5	19	16
Not too important	1	2	17
Not at all important	0	0	7
Not sure	0	0	1

Note: Percentages may not sum to 100 percent because of rounding, or because respondents answered “don’t know” or did not give a response to the question.

When pitted against each other in a statistical contest, however, these measures had different impacts on overall readiness. Asking for employee input, fostering open communication, and having charismatic and visionary leadership may matter greatly for overall organizational growth and high performance, but as Table 22 shows, they simply do not matter greatly to crisis readiness.

Table 22. Leadership and Crisis Readiness

Measure	Significant predictor of readiness?
Leadership has a shared vision of mission	Yes
Leadership invites employee input	No
Leadership encourages teams	Yes
Leadership fosters open communication	No
Leadership is charismatic	No
Leadership is visionary	No
Leadership is committed to crisis readiness	Yes

These results produce an adjusted R^2 of 0.153, which is significant at the .000 level.

Management Systems

Management systems are the final area of organizational life that has a potential impact on crisis readiness. Not only do crisis-ready organizations need basic systems for keeping track of what they do by way of managing and governing their core resources, but they also need planning and practice systems for crisis readiness in order for them to meet external threats.

Levels of crisis readiness clearly vary with access to basic resources, such as technology, information, training, and enough employees to meet the basic organizational mission. Whereas 72 percent of the organizations rated as very crisis ready reportedly had enough technology to achieve their missions, just 61 percent and 53 percent of their less ready and not ready counterparts, respectively, met this test (Table 23). Similarly, 75 percent of organizations rated very ready reportedly had enough training, compared with just 50 percent and 39 percent of their less ready and not ready peers; and 85 percent of very ready organizations reportedly had enough information to meet their missions, compared with 73 percent and 67 percent of the less ready and not ready organizations. However, readiness appeared to have no one-to-one relationship with having enough employees to meet the organization's mission; being short staffed appears to be a fact of organizational life, no matter how crisis ready an organization might be.

Table 23. Access to Resources

Organizational access to resources	Very ready, %	Somewhat ready, %	Not ready, %
Technology	72	61	53
Training	75	50	39
Employees	59	57	51
Information	85	73	67

Crisis readiness also varies with how organizations handle knowledge as it moves throughout the hierarchy. Among the organizations rated as very ready,

- Thirty-seven percent reported that knowledge was shared quite well within the organization, compared with 20 percent and 16 percent of the less ready and not ready organizations, respectively (not shown)
- Forty percent reported that the organization's management systems were very informative, compared with just 24 percent and 19 percent of the less ready and not ready organizations
- Thirty-seven percent said the organization's management systems were very user friendly, compared with 21 percent and 19 percent of the less ready and not ready organizations.

Much as these measures of organizational resources might affect organizational performance more generally, they have a mixed impact on crisis readiness, as can be seen in Table 24.

Table 24. Resources and Crisis Readiness

Measure	Significant predictor of readiness?
Organization provides enough technology to achieve its mission	No
Organization provides enough training	Yes
Organization provides enough information	No
Organization has user-friendly management systems	No
Organization has informative management systems	No
Organization encourages knowledge sharing	No

These results produce an adjusted R^2 of 0.080, which is significant at the .000 level.

Crisis Management Systems

Internal systems also involve a variety of crisis management approaches, including planning and practice. Both matter greatly to crisis readiness. Among respondents who picked a very ready organization,

- Eighty percent said that adequate investment in crisis readiness was very important to readiness, compared with 53 percent and 39 percent of respondents who rated their organizations as less ready or not ready, respectively
- Seventy-seven percent rated incorporation of crisis readiness into the strategic plan as very important, compared with 51 percent and 37 percent of those rating less ready and not ready organizations
- Ninety-seven percent rated emergency preparedness planning as very important, compared with 86 percent and 42 percent of those rating less ready and not ready organizations
- Eighty-nine percent rated emergency preparedness training and exercises as very important, compared with 62 percent and 23 percent of the less ready and not ready comparison groups
- Eighty-eight percent rated BCP as very important to readiness, compared with 70 percent and 52 percent of those rating less ready and not ready organizations.

When pitted against each other, three of the five measures of organizational climate and practice emerged as particularly significant to crisis readiness. At least as measured by adequate investment and the inclusion of crisis readiness in the strategic plan, practicing for crisis appears to be far more important than the organizational climate created by senior leadership commitment and so forth. As Table 25 shows, the advice to organizations that wish to become more ready for crisis is clear: practice.

Table 25. The Eight Sources of Crisis Readiness

Measure	Significant predictor of readiness?
Leadership is committed to crisis readiness	No
Organization makes adequate investment in crisis readiness	No
Organization has a culture of continuous improvement in crisis readiness	No
Organization incorporates crisis readiness in strategic plan	No
Organization engages in preparedness planning	Yes
Organization engages in preparedness training and exercises	Yes
Organization actively monitors threats	Yes
Organization engages in business continuity planning	Yes

These results produce an adjusted R^2 of 0.361, which is significant at the .000 level.

None of this is to argue that the climate of crisis readiness is irrelevant to profitability and organizational performance; indeed, climate and the other measures of organizational performance may be quite relevant, as was indicated earlier in Figure 1. Rather, the statistical results suggest that practice is the most powerful immediate predictor of readiness.

Moreover, organizational performance may be quite relevant to practicing for crisis; that is, active monitoring of the environment, a pliable internal structure, commitment to employee participation, and access to basic resources may be essential precursors of effective practice, even though they may not show up as *the* essential activities directly related to crisis readiness itself. Simply put, crisis readiness may be an essential attribute of high-performing organizations.

The Final Tournament

Given current threat levels, organizations can hardly put off becoming crisis ready; much as they might like to have more resources and higher performance, and much as they would like to have the resources that government has for preparedness, they must act nonetheless. And those organizations that are about to act need more than nostrums about being high performers. They need evidence-based advice on just what matters most to their readiness, and at least some guidance on which measures come first, second, and so forth. Thus, they need to ask *how* they can become more crisis ready, not whether or if they should.

This question becomes all the more important when all the significant predictors of crisis readiness are pitted against each other in a second round of advanced statistical tests. As Table 26 shows again, both practice and performance emerge as significant predictors of crisis readiness. So do firsthand experience and a sense of shared mission. Of the twenty-three measures that were significant predictors of crisis readiness in their respective categories, just five emerged as significant predictors when all were pitted against each other in a final tournament.

Table 26. A Final Round of Comparison

Measure	Significant predictor of readiness?
Organization's performance is rated as high	Yes
Organization has experienced or been threatened by an external crisis	Yes
Leadership has a shared vision of mission	Yes
Organization engages in preparedness planning	Yes
Organization engages in preparedness training	Yes

These results produce an adjusted R^2 of 0.523, which is significant at the .000 level.

This final list suggests the need to pay attention to crisis readiness and organizational performance simultaneously. Crisis readiness involves a series of questions that must be answered as organizations prepare themselves for external threats. How good is their overall performance? Do they have a mission worth protecting? Do they invest enough time and energy

in thinking about external crisis? And do they bring past experiences with real threats to bear on their planning?

Much as organizational performance clearly matters to crisis readiness, this study suggests that the immediate path to readiness involves actual experience and the practice that often follows. Experience creates motivation, which in turn leads to planning and training, both of which take place inside organizations that may already be oriented toward the use of best practices.

This is not to dismiss the eighteen other variables that showed strong relationships with crisis readiness in their respective categories, however. Readiness does not take place in a vacuum. Rather, it is conditioned by a variety of factors that increase the likelihood that a given organization will have the resources and ability to take action. Readiness is certainly possible in organizations with lower levels of employee competence, for example, or with confusing chains of command, or even with a lack of resources for crisis management, but it is almost certainly easier to achieve if these and other conditions are met. Readiness is also no doubt possible in organizations without a results-driven culture, a commitment to continuous improvement, and a senior commitment to readiness, but it is almost certainly more likely to develop if the organization has these attributes.

In other words, all things being equal, readiness appears more likely in high-performing organizations, which are high performers in part because they are ready for crisis. This relationship suggests that an examination of crisis readiness over time might find that a commitment to continuous improvement is the most important measure of an organization's readiness and performance. It is a reciprocal relationship that rests at the center of the rationale for crisis readiness in the first place.

V. CONCLUSIONS

It is hardly surprising that organizations might be confused about the pathway to crisis readiness. After all, the literature and research on crisis readiness offer a deep inventory of advice on how organizations can improve: name an organizational intervention for improved performance or readiness, and it is likely to be on the long list of suggestions.

Much of this deluge of advice is driven by the powerful one-to-one relationships that exist between individual organizational characteristics and crisis readiness, many of which are confirmed in the survey described in this report. **These relationships naturally lead many researchers to confidently suggest interventions that emerge from their particular research area, whether that area is crisis oriented or not.**

While this study shows strong relationships between a host of organizational characteristics and crisis readiness, the long list of positive relationships may lead to a nearly impossible set of tasks en route to crisis readiness. Encouraging organizations to do almost everything on the list to improve their performance may actually result in a kind of paralysis. Asked to do everything, some organizations may simply assume that crisis readiness is beyond their reach.

At the same time, crisis readiness cannot be found easily in poorly performing organizations. It is not something can be grafted onto an organization in disarray. Even as it contributes *to* high performance, crisis readiness is also a consequence *of* high performance. In this post-September 11th and post-Katrina era, high-performing organizations have come to recognize that crisis readiness is just as important to their missions as other attributes, such as strategy, internal structure, culture, leadership style, and management systems. Performance and crisis readiness are, therefore, intimately related to each other in a constant feedback loop: high performance produces the resources and concentration needed to improve crisis readiness, even as crisis readiness contributes to the resources and concentration needed for high performance.

That said, although organizational performance may indeed be a precursor of eventual readiness, this study suggests that crisis readiness reflects a blend of actual experience, elements of

organizational performance, and actual practice. Accordingly, this study is best viewed as an illustration of how different predictors of crisis readiness might be pitted against each other to determine what matters most to readiness.

There is still much research to be done in validating the core findings of the survey, but the general conclusion seems clear: **Readiness appears to reside in a relatively small number of variables that organizations can control.** For organizations that have experienced an external threat, crisis readiness is part of a core commitment to mission and actual practice. For organizations that have not experienced such a threat, readiness must involve at least some effort to simulate the realities of a crisis, particularly through planning and practice. Instead of doing everything at once, the study suggests that organizations make sure that they have a shared sense of mission and a deep commitment to readiness.

This is not to argue that the other interventions explored in the study are irrelevant to readiness. Nor is it to suggest, quite literally, that organizations should seek confrontations with real external threats as a wake-up call to action. Rather, it is to suggest that some activities are more immediate than others, and as this research has shown, organizations should start their journey to crisis readiness by focusing on readiness itself.

This conclusion suggests three recommendations for organizations and their leaders:

1. *Crisis readiness should be given the same organizational priority as other mission-centered activities, such as fund-raising and sales, marketing and branding, strategy, and measurement.* Instead of being buried within another unit, crisis management should be high on the executive's and board's agenda, receiving continuous attention, while the crisis management team should be integrated into the organization's leadership structure.

2. *Crisis readiness should be given an identifiable line in the organizational budget; it should not be subsumed in another budget.* Just as major organizational divisions receive clear budgetary guidance and targets, crisis management must be given transparent access to resources. Organizations are quick to judge efforts such as crisis management by

access to the leadership suite and budget. Absent reasonable investment, crisis management becomes just another goal on the long list of passing fads.

3. *Crisis readiness should be given clear grants of authority from the leadership and the board.* Crisis managers must have the power to make and enforce decisions. The crisis management team cannot be given the responsibility to improve organizational readiness without also being given the authority to do so. Similarly, there is little reason to give crisis management leadership access and resources if it does not have the same authority to act as other units have. It simply cannot be forced to ask for permission to act.

And three recommendations for Congress and other policy makers:

1. *Clarify the role of organizations in disasters, particularly those organizations that provide critical services during a disaster.* Current law leaves many gaps in basic understandings about who acts when, where, and how. It also ignores the practical effect of organizational weaknesses on crisis readiness. Congress could rectify the situation through a number of mechanism: (1) an annual census of organizational readiness to be conducted by the Department of Homeland Security, (2) ongoing technical assistance on improving the linkage between organizational performance and crisis readiness through such federal agencies as the Department of Commerce and the Small Business Administration, and/or (3) statutory creation of a federal loan program to spur greater investment in readiness.

2. *Raise the limits of support, and decrease the barriers for application, for small businesses in the aftermath of a disaster.* Congress should amend the Stafford Act to provide a one-time inflation-based increase in levels of support, and should establish a statutory mechanism for automatic increases in those levels. It should also allow for variable limits to address the needs of organizations in high-cost areas, and should include nonprofit agencies and small governments in its programs. Further, it should move toward a voluntary and updatable national database of organizations that would accelerate the application process.

3. *Set voluntary standards for crisis readiness through statutes and award programs.* Just as it has given substantial credibility to total quality management through the establishment of the Malcolm Baldridge Award, Congress should consider a similar program for acknowledging high performance in crisis readiness. It should ask the congressionally chartered National Academy of Sciences and National Academy of Public Administration to develop a set of standards and benchmarks for increasing crisis readiness in the United States. It should also establish a quasi-independent monitoring agency modeled on the Security Exchange Commission. Although this agency should be given the authority to celebrate success and to sanction a lack of progress, its primary tool for standard setting and enforcement should be cooperative in nature.

The message from these simple recommendations is clear: Crisis management must be a lasting organizational commitment. It must have the status it deserves as an important contributor to high performance and as a marker of a high-performing organization.

APPENDIX 1

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