6

Building a Collaborative Learning Culture

Knowledge management is a methodology for capturing the important knowledge within an organization and utilizing it to support the organization's [operating] requirements. . . . When the organizational currency is ideas . . . sophisticated approaches must be employed to foster the creation, evolution and communication of those ideas. The intent is to improve the organizational environment [culture] for valuing, generating, sharing and applying knowledge.
(U.S. Dept. of Defense, KM position announcement [U.S. DOD 2002])

Snyder and Briggs (2003) described the experiences of four different public-sector collaborative programs for community development: Boost4Kids, SafeCities, 21st Century Skills, and the Federal Highway Administration's Rumble Strips Initiative. Their IBM Business of Government–sponsored report focused on the methods the people behind these innovative programs used to develop local networks to build local coalitions, operate after-school programs, link education to job training, trace illegal guns, and improve highway safety. The networks combined a number of different learning activities to develop and share the knowledge needed to grow the coalitions. The underlying concept tying the four programs together was development of a collaborative learning culture based on trust and mutual respect. These programs succeeded because the cultural barriers that often make it impossible for KM to succeed were replaced by a culture of collaboration, trust, and commitment.

Chapter Objectives

Successful implementation of a knowledge management initiative in a public-sector agency is influenced by a number of controllable and uncontrollable

factors. Several of these are discussed in this chapter, including organizational culture, climate, operating policies, and leadership. The chapter objectives, therefore, are that readers take away the following benefits from the chapter:

- To gain an understanding of the role of organizational culture, climate, and policies in shaping the success or failure of KM in government agencies.
- To recognize the different paths and destinations that knowledge management can take in an agency, depending upon the state of the culture of the organization.
- To understand the meaning and role of organizational culture, climate, and policies.
- By reading about actual government programs in Canada and the United States, to develop a greater awareness of how culture shapes knowledge capture and sharing.
- To develop an awareness of the role of leadership in KM program adoptions.

Culture in Public-sector Systems

The concept of culture in public-sector knowledge management systems is a point of concern on two distinct planes. One is the political culture that shapes an agency's operating environment and policy focus. This culture is driven by policy formation and emphasis, which is often expressed as mandated executive or legislative initiatives. Political culture is a reflection of political party philosophy and traditions. The distinct polarity that characterizes the polity at the national level as the twenty-first century begins may be even more pronounced at the state and local level, where states and municipal governments can be classified as strongly liberal or conservative.

These opposing philosophies influence the direction of state and local political actions. In the instances where legislatures and the executive represent opposing political philosophies, or where the legislature is evenly divided between parties, it is often difficult to move forward with an ambitious policy agenda (Melkers and Willoughby 2004). For example, for one two-year session at the turn of the twenty-first century, the Washington State House of Representatives was evenly split between the Democratic and Republican parties; opposing party members exhibited little or no willingness to compromise on proposed legislation. As a result, little legislation was enacted and hardly any progress was made on solving pressing social problems. Rather, the session was characterized by acrimonious name calling and blaming the other party for the collapse of the legislative process.

Organizational culture refers to the internal climate in which the members of an agency carry out their daily tasks and responsibilities. Mutual trust and respect, job satisfaction, and commitment to a mission are all reflections of a particular organizational culture, just as are their opposites. Organizational culture is expressed in the phrase "the way we do things around here."

The political culture of an agency can change rather quickly—at least on the surface—with a change of administrations, whereas the organizational culture of an agency is longer lived and harder to change. The results of a study of a local unit of the General Services Administration in 1995 made this point of conventional wisdom clear. The study was carried out to determine whether the culture that existed in the organization at that time was conducive to adoption of a total quality management initiative (McNabb and Sepic 1995). The researchers found that, without the wholehearted support of senior management, most change initiatives tried in that unit would be failures.

Culture and Knowledge Management

For a public-sector KM program to be successful, a number of specific organizational culture conditions must be present. First, there must be a culture of openly sharing information. Members must trust one another to do the right thing when it comes to sharing information (U.S. GAO 2003b). Users of knowledge generated by others must freely give credit where credit is due. And, the agency must support human resources policy that promotes a willingness to learn among members of the agency. Clearly, this involves the social side of KM, not the technology side. One way that governments have initiated the type of culture in which KM has a chance of thriving is by forming "communities of practice." As we saw in the preceding chapter, communities of practice are groups of people who "share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis" (Wenger, McDermott, and Snyder 2002, 4).

It is important to remember that it is not necessary that the members of a community of practice work in relatively close proximity to one another every day. Rather, the members of the community participate because they value spending time together and what they learn when they do meet. Because they value the relationships, eventually a common bond of mutual understandings and shared standards, work ethics, and aspirations develops. Thus, the members succeed by forging their own subculture within—and despite—the larger organization's broader operating culture. Before proceeding with this discussion, a quick review of some of the research on organizational culture and how it can be a barrier to organizational change of any kind is in order.

Barriers to Organizational Change

Researchers and practitioners now agree that most if not all KM adoption failures—and failures of other such change initiatives—are not failures of management. Rather, they should be attributed to a deeper, more fundamental source: the all-pervasive culture of the organization and the operating climate that culture shapes in an organization (Bock 1999; Knapp and Yu 1999; Rastrogi 2000; Holowetzki 2002). More often than not, managers and administrators become victims of that culture, just as change itself is a victim of the implementation process. Thus, in order to improve the odds of success when attempting to introduce any change into an organization, government managers should first conduct a comprehensive examination of their organization's underlying culture and the operating climate that is created and constantly influenced by that culture. In this way they are able to identify the barriers to success beforehand and plan and implement change strategies before implementing a change.

Culture, Climate, and Change

Together, the organizational characteristics with the greatest power to shape the effectiveness of an agency are culture and climate; their nature dictates the state of acceptance required for acceptance of a knowledge management initiative. If the organization's culture and climate refuse to accept change, such initiatives as KM will fail, regardless of the desires and plans of the organization's managers. Staff members are more likely to go through the motions of reacting to the change, but without any real substantive modification taking place.

Organizational change refers to the process of altering people's actions, reactions, and interactions in such a way as to move the organization's existing state to some future desired state (Pettigrew 1990). The only way to bring about change that lasts—that is, to bring about an organization-wide acceptance of knowledge management as the new way of operating—is for management to develop a working environment in which employees are able to operate more effectively within the new environment. Pettigrew terms this "influencing the conditions that determine the interpretation of situations and the regulation of ideas." Thus, the organization's culture and/or its climate must be modified, or the processes, policies, or technologies to be changed must be modified to match the dictates of the organization's culture and climate; otherwise, organizations will resist knowledge management in whatever form it appears.

Organizations are supposed to provide employees a recognized, stable

way of dealing with the problems of their environment (J.Q. Wilson 1989). Implementation of change initiatives may become even more difficult when the organization is a public agency, as managers of such agencies are forced to use as incentives for adoption rewards that are largely nonmaterial. Bringing the knowledge management way of operating into such an organization has been shown to be a "long-term, complex process of cultural reform that requires unprecedented technical competence and may take as long as ten years to complete, if at all" (Wollner 1992).

Culture in the Public Sector

The use of KM in government agencies has become an important tool in the effort to "reinvent government" by giving public service managers new freedom to manage their resources as they manage their operations. Advocates for organizational transformation at the municipal, state, and federal levels of government are using KM initiatives to help bring about long-desired change. These "change advocates" note that organized and clearly directed process-action teams—groups of workers who share a common interest in a work task or job—often experience dramatic success in improving their customer service processes. This is particularly true when the teams use customer requirements as a baseline against which change is measured. Agencies that have employed KM have reported such positive changes as reductions in operating costs, general process improvements, and less management time spent in "putting out fires" with more time for planning, together with the overall benefit of improved employee morale (Cummins and Stonebraker 1989, Curda 1993).

Regretfully, the progress seen in agency operations through the use of KM has not been consistent, or long lasting. When such programs have been a success, they have usually followed a progression similar to what Eskildson (1994) described as a "bottoms up" transformation process. In such situations, organizations empower personnel in a process of setting specific goals for enhancing customer-valued benefits in the beginning years of the program. This process then infuses the goals throughout the overall culture of the organization. However, incomplete employee empowerment has been found to be a major cause of disappointing results with implementing KM in public agencies. Because empowerment is founded on trust rather than control, major supervisory retraining may be required before the process succeeds. Training managerial and supervisory members in the use of basic knowledge-sharing techniques and processes can readily be achieved; the really difficult task is changing basic attitudes regarding trust.

To successfully implement a long-lasting knowledge-sharing culture within

a public agency requires leaders who are cultural change agents, not old-style managers who believe in autocratic controls founded predominantly for controlling costs. The new public manager as change agent is one who views the KM approach as a set of attitudes and behaviors of everyone in the organization, as well as those served by the agency. These expectations are, of course, shaped by the culture and climate of an organization as well as management's policies. To help foster understanding of how these forces affect acceptance of change by an organization, a model of the forces involved in the process follows (Figure 6.1).
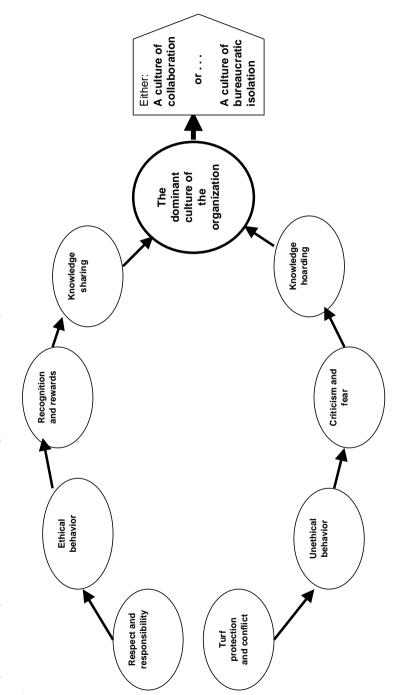
What Is Organizational Culture?

All organizations have their own individual and unique cultures (Schein 1992; Wilson 1989). Because the organization's culture dictates what behaviors are acceptable, it also establishes the ways in which problems are addressed within the group, spells out how relationships are defined and supported, and establishes the manner in which work is done. Figure 6.1 illustrates two different cultures.

Once a culture is established, not only does it affect everyone within the organization, it is extremely difficult to change. As Wilson (1989) has noted, "Culture is to an organization what personality is to an individual. Like human culture generally, it is passed on from one generation to the next. It changes slowly, if at all."

By its influence on the behaviors and attitudes of an agency's personnel and the leadership styles of its senior managers, culture creates a specific climate of operations within the organization. A direct product of the interaction of the organization's culture, climate, and people is a set of processes and procedures that both legitimize and direct the work of the organization. Together, the operating processes and procedures are expressed as the policies that guide the organization's actions. The effective integration of culture, climate, and policies, then, is what determines the relative ability of the organization to carry out its mission, as well as its ability to accept and integrate change (Schein 1992). Two standard performance measurements of this condition of final integration have been employee achievement on relevant metrics, such as contributing to a community of practice, and job satisfaction.

The performance outcomes of job satisfaction and job performance also have an influence on an organization's readiness to accept the organizational culture that knowledge management requires. Employees and managers who are comfortable and secure in their jobs (have high job satisfaction), and are rated high in job performance, will most likely have the appropriate attitudes toward implementing the KM initiative.

Figure 6.1 **Organizational Factors Affecting the Culture of an Organization**

Either:
A culture of collaboration

or . . .

A culture of bureaucratic isolation

The dominant culture of the organization

Knowledge sharing

Knowledge hoarding

Recognition and rewards

Criticism and fear

Ethical behavior

Unethical behavior

Respect and responsibility

Turf protection and conflict

Whenever a major change of any type is proposed for implementation, whether it is a change in the basic information technology employed, in basic operating procedures, or in processes for the resolution of conflict, a state of anxiety often develops among the members of the organization. This state of anxiety is sometimes referred to as stress, and high levels of stress are a significant barrier to change. When stress is high, often performance is lowered and job satisfaction reduced. In the end, agency product or service quality suffers—along with customer/client satisfaction (Sepic and McNabb 1992).

The established culture of an organization is also shaped by a set of learned consequences of the behaviors of members of the agency. Changing the existing culture can be done only when employees learn new sets of accepted behaviors. To change these learned habits, existing perceptions must be "undercut" while the new culture is reinforced (Thompson and Luthans 1990). The workplace environment must be closely managed to ensure that only the new culture is supported.

Dimensions of Organizational Culture

An organization's culture shapes all of its actions, operations, and relationships in an organization is its culture. Schein (1992, 7) has defined culture as the "pattern of basic assumptions that the group learned as it solved its problems of external adaptation and internal integration, which has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think and feel in relation to these problems." Thus, culture sets both the limits (constraints) and the direction of movement of behavior within the organization: Culture dictates acceptance of all organizational change.

An organization's culture is expressed in three levels of human behavior and cognition: what is created or produced, what is valued, and what are the group's basic beliefs or assumptions. Included in what is produced is the level and way of using technology in the group, together with other patterns of behavior among and between group members. Technology refers not just to a type or level of hardware, or technologies—computers, for example—but rather to what J.Q. Wilson (1989) has called a "set of tactics" that employees use to do their tasks. Thus, technology in this sense should be considered the method or means of doing the job that seems easiest and most attractive to the doers at the time. Knowledge collection and sharing procedures and practices are part of the technology of KM.

A problem sometimes cited with the study of culture in organizations has been the failure of researchers to state and rigorously test hypotheses about culture (Wilson 1989). As a result, it has been argued that culture is no more

than a "mushy word used to dignify the hunches and intuitions of soft-headed writers who produce journalism in the guise of scholarship." Wilson refuted this criticism, stating that although organizational culture is admittedly a vague concept, it is, indeed, no less real than concepts such as national culture or human personality (McNabb and Sepic 1995).

Sepic and McNabb (1992) tested a number of different scales to measure characteristics of organizational culture in a large and diverse government agency. They found that these five constructs as factors contributed to organizational culture: its basic organizational structure, technology, role clarity, social support, and human interaction. In a content analysis survey of the literature describing KM implementation problems, Holowetzki (2002) later identified six cultural factors affecting knowledge management implementation success: information systems, organizational structure, reward systems, processes, people, and leadership. The relevance of these two studies for KM lies in the recognition that organizational culture is a multifaceted construct, and that any benchmarking study should therefore include a number of different components.

Dimensions of Organizational Climate

The climate of an organization emerges from the interaction of people and its basic underlying culture. Often incorrectly used as a synonym for culture (Schein 1992; Turnipseed 1988), climate instead must be considered to be a reflection of the agency's culture and a reflection that is distorted by the qualities and abilities of the people in the group.

Organizational climate has been defined as a "concept reflecting the content and strength of the prevalent values, norms, attitudes, behaviors and feelings" of the people within an organization (Payne 1971); as the level and form of organizational support, openness within the organization, its supervisory style, conflict between members, and autonomy and quality of relationships (Lewicki et al. 1996); and as the norms, feelings, and attitudes—in a word, the "atmosphere"—prevailing in an organization (Dastmalchian, Blyton, and Adamson 1991).

Measurements of the climate of a government organization may be used as a barometer of employee satisfaction and management effectiveness; thus, if the climate of an organization is "good," it exerts a strong force on the behavior of the organization's members (Turnipseed 1988). Of course, if the climate is "bad," an equally powerful but opposite force is exerted on members' behavior. In further support of this thesis, Reichers and Schneider (1990) identified structure, rewards, and warmth and support as the fundamental dimensions of organizational climate.

From the work of Reichers and Schneider (1990) and Dastmalchian, Blyton, and Adamson (1991), McNabb and Sepic (1995) evaluated four measures of organizational climate in a study of a branch of the General Services Administration. They included (1) the social environment, (2) internal communication, (3) role conflict, and (4) supervisory support. Kopelman, Brief, and Guzzo (1990) earlier concluded that a considerable body of evidence indicates that these dimensions of climate are, in fact, associated with job satisfaction; they also determined that is impossible to precisely identify which particular dimension of climate is or is not consistently related to satisfaction.

Culture and Organizational Policies

Human resources researchers have suggested a wide variety of organizational programs and policies that reflect an organization's basic culture. For example, two constructs identified by McNabb and Sepic (1995) were, first, the attitudes toward training and staff development programs in the organization, and, second, the organization's intrinsic and extrinsic rewards system. Thompson and Luthans (1990) noted that simply announcing what is desired behavior—that is, articulating what type of culture the agency must adopt—is not enough for that culture to be accepted. The policies and practices that managers establish and follow must be consistent with the desired change. That is, if managers desire a climate of trust for their agency, they must trust their employees. If they desire that employees share their knowledge and experience, they must consistently do the same themselves. The problem, however, is generally not with setting an example. Rather it is with coming up with the appropriate incentives for motivating the desired behavior in employees.

Financial incentives are often used as a motivator in the private sector. However, there is little opportunity for managers in government agencies to gain acceptance of new concepts based on the distribution of monetary rewards. The rewards that are available for use by the agency's managers are largely nonmaterial; they fall into such categories as (1) enhancing a sense of purpose or duty within the organization, (2) status that is derived from individual recognition, and (3) membership benefits that come from being a part of an organization that is highly regarded by its members, the publics it serves, and society at large. As limited as these factors—purpose, status, and solidarity—may seem at first glance, they are the fundamental building blocks needed for development of a sense of mission that is commonly shared within the organization. An example of how these factors interact to shape an open and receptive KM culture in a variety of related agencies in Canada follows.

Shaping a Collaborative Culture

Managers must ensure that culture, climate, and policies are in harmony as the first step in laying groundwork for implanting a KM program. The public-sector cases that follow highlight some of the actions taken by management to build a culture of collaboration among a diverse body of regulatory and inspection agencies. The Canadian government's regulatory and inspection community has members representing a variety of federal and provincial government agencies. The community began developing a plan for increasing interorganizational collaboration in 2002, not long after the September 11, 2001, terrorist attack in the United States. Some of the reasons given in support of expanding collaboration among community agencies were (R/IS 2003):

- Different members of the regulatory and inspection communities often serve the same clients, resulting in costly duplication;
- Improved cooperation enhances knowledge sharing and yields improved performance, in terms of both timeliness and outcomes;
- Complementary resources and expertise can be shared, and redundancies kept to a minimum; and
- Interorganizational training can contribute to closer working relationships and create synergies between organizations.

A number of federal inspectors attending the conference at which the plan was broached shared their experiences in situations where such collaboration contributed to more effective outcomes. Inspired by the examples, the Regulatory/Inspection Secretariat (oversight office) began to collect case material and work on the plan to foster a collaborative culture within the regulatory/inspection community. The program to inculcate a broadly based and deeply rooted culture of collaboration was complicated by a number of social and cultural challenges that had come to light during the study of successful cases. Several examples of collaborative government programs in Canada are included in Box 6.1.

Collaboration requires a strong and enduring organizational commitment. Improving cross-agency collaboration requires strong support and direction from senior management and commitment at all levels of the agency. A culture of collaboration is more than the intent and motivation of individual workers; it requires a supportive culture that is shaped by the organizational, political, and legal environment. A culture of collaboration requires investments in financial and human resources, and an effort to identify, collect, and formalize best practices.

Box 6.1

**Three Examples of a Culture of Collaboration in
the Canadian Government**

The Task Force on the Coordination of Federal Activities in the Regions conducted twenty-one case studies to learn from past experiences ways to improve the design and management of horizontal collaborative initiatives. One of these programs studied was the Canadian Maritime Network (Canmarnet). This network was launched by the Department of National Defense in 1994 to gather and share maritime information among federal departments. Other federal agencies participating in the net include Fisheries and Oceans Canada, Citizenship and Immigration, the Royal Canadian Mounted Police, and the Canada Border Services Agency. Canmarnet provides a computerized picture of where offshore maritime vessels are located, the names of the vessels, their destinations, crew lists, and blueprints. Positional information on each offshore vessel is sent to federal departments and agencies daily. The system allows departments to picture normal shipping patterns, and identify any irregularities. The shared information is valuable for such federal government efforts as security, fisheries management, drug control, maritime shipping, immigration, and others.

The Canadian Border Services Agency was established to coordinate key activities shared among three different agencies: the Canada Customs and Revenue Agency; the Intelligence, Interdiction, and Enforcement arm of Citizenship and Immigration Canada; and the Import Inspection at Ports of Entry unit of the Canadian Food Inspection Agency. Using an Automated Targeting System, all imports were put under control of the Canada Border Services Agency, with an agreement between agencies for investigators from other agencies to investigate or provide advice on targeted shipments.

Transport of Dangerous Goods inspectors at Transport Canada collaborate with other departments such as Health Canada, the Canadian Food Inspection Agency, Environment Canada, Natural Resources Canada, and U.S. authorities. This collaboration includes sharing information with other organizations to minimize the risk of jeopardizing other inspections or operations that may already be planned or under way. Failure to share intentions could disrupt a criminal investigation, destroy evidence, or put citizens' health or the environment at risk.

Source: RI/S 2003.

Organizations working together must find common ground for collaboration that is consistent with their respective organizational mandates, jurisdictions, and approaches. Each agency in a collaborative system has its own culture, climate, and policies; each has developed its own distinct approach to problem solution. Although managers tend to have a common understanding of the costs and penalties associated with risk, they also recognize that risk factors and risk assessments vary between agencies. In most collaborative situations, one member typically must take a lead role, thus assuming a disproportionately large share of the risk inherent in the program. Other agencies participate in varying degrees and with varying levels of risk. However, for the collaboration to succeed, partners must have a common understanding on what the program is to achieve, on their individual roles and jurisdictions, and on the approach to be taken. Working at cross purposes means a quick death to efforts to form a culture of collaboration.

Organizations must generate motivation for collaborative work among individuals. This motivation is developed and maintained on a continual basis. This can be done by cultivating such important values as openness to change and diversity within each organization and the greater collaborative team. Primary and secondary partners must be encouraged to buy into the mission of the collaborative activity, the approaches taken, and the shared responsibilities. The key to making this happen lies in the leadership exercised by the lead agency. Organizations in the community must be motivated to share complementary resources, including training, expertise, and equipment. Leadership is discussed in somewhat greater detail later in this chapter.

All members of the collaborative team must be encouraged to accept diversity in cultures and work approaches. Diversity in the workplace commonly refers to ethnic and demographic differences. However, in collaborative task environments it also includes diversity in organizational cultures and approaches. Certainly, it means dealing with the need to coordinate missions, rewards, and support policies.

Collaboration means addressing multiple challenges related to communication within and between organizations. Results of the case studies emphasized that continual and effective communication is necessary for building relationships across organizations—and for maintaining the relationships in the face of constant change. Communication across units is not easy; organizations have their own cultures and their own ways of communication. In some agencies, the most effective medium is by informal "grapevine" communication. In others, formal top-down communications are the norm.

The very nature of collaborative networks necessitates the sharing of knowledge. Sharing past experiences and lessons learned is a primary objective of

a culture of collaboration. This often requires establishing a special multi-format and multimedia communications channel. Thus, collecting and sharing the stories of members of an organization or community of interest has become an important activity in public-sector knowledge management.

Saving the Great Lakes

Joint effort on ways to restore the source of fully 20 percent of the world's fresh water is collaboration on a grand scale, indeed. Such a program began May 18, 2004, when President George W. Bush signed Executive Order 13340 establishing the Great Lakes Interagency Task Force (GLTF). The task force was formally launched in December of 2004 as the Great Lakes Regional Collaboration of National Significance (GLRC). With the U.S. Environmental Protection Agency (EPA) as its lead agency, the task force brings together ten U.S. cabinet and agency chiefs to coordinate restoration of the Great Lakes. Together, the ten agencies administer more than 140 federal programs that fund and manage restoration efforts in the United States alone. Since Canada also borders on each of the lakes, Canadian organizations, including Environment Canada and the Province of Ontario, are involved as well. Eight strategy teams, each focusing on a different issue, began work in January 2005 to develop recommendations for action. The first draft of the Action Plan was released in July of 2005 (EPA 2005d).

According to an EPA administrator, the guiding principle of the collaboration follows a key tenet of successful collaborations: a single agency must serve as the leading agency. This means projects must be characterized by central coordination, local control. For the Great Lakes effort, "Policies, priorities and plans will be centrally coordinated; programs, projects and people will be locally controlled" (EPA 2005c). To ensure that the task force complies with an earlier presidential order for employing best practices, the EPA is also responsible for developing a set of principles for successful collaboration that will be used by all agencies involved. Box 6.2 lists the collaborative and coordination responsibilities assigned to the GLTF.

The key cultural directive shaping the new task force was the president's directive that the EPA work with each of the states and cities bordering the lakes and streams to establish a regional collaborative effort. The regional collaboration includes federal agencies, Great Lakes governors, Great Lakes mayors, Great Lakes tribes, and members of the Great Lakes states congressional delegation—working together to restore and protect the Great Lakes ecosystem (EPA 2005a). Although the task force is moving ahead with its mission, it must be kept in mind that cultural changes implemented by external mandate tend to have a short life span.

Box 6.2

Great Lakes Interagency Task Force Collaborative Actions

The following ten objectives for the task force were spelled out in a May 18, 2004, statement announcing the establishment of the collaborative initiative:

1. Help convene and establish a process for collaboration among the members of the task force and the members of the working group established [by the order], with the Great Lakes states, local communities, tribes, regional bodies, and other interests in the region regarding policies, strategies, plans, programs, projects, activities, and priorities for the Great Lakes system.

2. Collaborate with Canada and its provinces and with the binational bodies involved in the Great Lakes region regarding policies, strategies, projects, and priorities for the Great Lakes system.

3. Coordinate the development of consistent federal policies, strategies, projects, and priorities for addressing the restoration and protection of the system and assisting in the appropriate management of the . . . system.

4. Develop outcome-based goals for the system relying upon existing data and science-based indicators of water quality and related environmental factors, [focusing] on such outcomes as cleaner water, sustainable fisheries, and biodiversity of the system.

5. Exchange information regarding policies, strategies, projects, and activities of the agencies represented on the task force.

6. Work to coordinate government action associated with the Great Lakes system.

7. Ensure coordinated federal scientific and other research associated with the Great Lakes system.

8. Ensure coordinated government development and implementation of the Great Lakes portion of the Global Earth Observation System of Systems.

9. Provide assistance and support to agencies represented on the task force.

10. Submit a report to the president in 2005 and thereafter as appropriate summarizing the activities of the task force and providing any recommendations that would advance the policy set forth in Section 1.

Source: EPA 2005b.

To achieve the full potential contained in a public-sector knowledge management system, some person of higher-level responsibility must be willing to come forth as the program's sponsor. Without powerful sponsorship, it is likely that the program will wither on the vine—fulfilling the prophecy that "KM is just another management fad, bound to fly in the face of all other such fads." A significant gap exists between what managers learn about leadership and how leadership is implemented in organizations (Parikh 2005). Indeed, a "crisis of leadership" may exist at the managerial and supervisory implementation levels in both the private and the public sectors.

Leadership in federal government knowledge management programs can take the form of either an internal champion or a sponsor or sponsors; government agencies can benefit from both types of leaders (Wenger, McDermott, and Snyder 2002). A champion is a high-level administrator who has a strong faith in the ability of KM to do what it purports to do for the agency. That faith takes the form of strongly supporting the initiative in highest-level budget negotiations, including providing the KM program leaders enough slack to show that KM has long-term benefits. Moreover, a champion makes sure the program gains high visibility, both within the agency and among other government agencies. In all other organizational paths and ways, he or she clears the way for the agency's KM players—such as members of communities of practice—to perform their actions without fear of seeing the program cut out from beneath them.

Sponsors, on the other hand, are also willing to work to achieve financial support for the KM program, but tend to be less unfailingly enthusiastic about what KM can do for the organization. Sponsors are also less willing to wait long periods for payoffs from KM activities, and more likely to demand performance appraisals and early evidence of successes.

Leadership has a variety of roles and responsibilities in public-sector organizations, among which are the following (Anantatmula 2005):

- Responsibility for strategic planning and systems thinking.
- Allocating the best mix of resources, including but not limited to technology.
- Supporting an organizational culture that honors learning and knowledge sharing.
- Fostering an organizational climate that rewards risk taking, open discussions, and team learning.

KM Leadership at the Department of Defense

First published in 2002, a white paper for the U.S. Department of Defense Comptroller's i-Center emphasized the leadership role of the chief infor-

mation officer (CIO) in government knowledge programs. Seeing a need for greater leadership in information and knowledge management and technology, Congress passed the Clinger-Cohen Act of 1996, by which the position of CIO was mandated for executive departments and agencies. CIOs were to be responsible for building credible organizations and developing knowledge management capabilities to meet mission needs (U.S. DOD 2002). The Defense Department paper closed with a list of leadership principles for managing information and knowledge functions in all government organizations (Box 6.3).

The establishing act further defined the role of leadership in an organizational culture in its guidelines by warning that in their knowledge management roles, government CIOs should ensure that the KM organizational structure they adopted was consistent with the business, technical, and cultural contexts of their units. For example, one agency might need a CIO who operates as a change agent, while another might need an operations specialist, and another might need a CIO who could play the role of oversight and policy manager. Moreover, the Defense Department added that the CIO position, once established in an agency, needed to be evolutionary rather than static—the position needed to change as the role and scope of technology in government also changes.

It was also recognized that a number of differences exist between the roles and responsibilities of public-sector and private-sector CIOs. For example, government CIOs are constrained in their actions by organizational characteristics typical of government, including little flexibility in financial reward systems and dispersed organizational structures. Some of the challenges facing CIO and chief knowledge officer (CKO) leaders include the following:

Focus on policy limitations: Agency heads are political appointees who are often more focused on policy issues than operational issues, which can make it difficult for the agency or department head to obtain the senior-level support that is critical for the implementation of knowledge management and information technology supporting KM into an agency's business processes.

Personnel decision limitations: Government managers' decisions regarding personnel are often constrained due to work rules or organizational factors. Information and knowledge management job descriptions might not match the evolved occupations. Also, training funds are often limited due to budget considerations.

Differences in job duty limitations: Duties that are typically a private-sector CIO's may not fall under a government CIO's direction at all. For example, some government CIOs are responsible for policy and oversight functions as well as their operational responsibilities.

Box 6.3

Leadership Guidelines for Government CIOs and CKOs

• Recognize the role of knowledge and information management in creating value and the leadership role the manager must assume in order to maximize the full potential of both.

• Position the CIO and CKO for success. They must be recognized as full participants on the management leadership team, and be given the managerial and technical skills required to meet the business needs of the agency.

• Ensure the credibility of the organization. The officers must have the commitment of line management as well as agency top management, and must accomplish quick, high-impact, and visible successes balanced with longer-term strategies. The officers must learn from partnering with successful leaders in the external knowledge and management communities.

• Measure success and demonstrate results. Technical measures must be balanced with business measures. The officers must continually work to achieve a steady flow of feedback between performance measures and business process.

• Organize knowledge and information resources to meet business needs. The officers must have a clear understanding of their responsibilities to meet business needs.

• Be flexible enough to adopt change when it occurs. KM is an evolutionary process.

• Develop the human capital of knowledge and information management. The officers must identify the skills needed to implement knowledge management in line with business needs, develop innovative ways to attract and retain talent, and provide the training tools and methods workers need to perform their duties.

Source: U.S. DOD 2002.

Differences in funding limitations: The public sector faces different funding challenges than do organizations in the private sector. Legislative mandates may force extensive modifications to systems, and IT and KM funds may be contained within the appropriations for a specific program, such as homeland security or e-government. If part of the agency's discretionary spending, they are more subject to volatile changes in the federal budget.

Following long-term investment strategies is also difficult because agencies put together funding requests from eighteen to twenty-four months in advance of funding availability.

Conclusion

Implementation of a knowledge management initiative is influenced by a number of controllable and uncontrollable factors, including organizational culture, climate, operating policies, and leadership. The concept of culture in public-sector knowledge management systems is shaped by two factors: (1) the political culture that shapes an agency's operating environment and policy focus, and (2) the organizational culture. The political culture of an agency can change rather quickly, whereas the organizational culture of an agency is longer lived and harder to change. Mutual trust and respect, job satisfaction, and commitment to a mission are all reflections of organizational culture. A number of specific organizational culture conditions must be present when adopting KM in a public-sector organization. These include: A willingness to openly share information, members' trust of one another to do the right thing when it comes to sharing information, freely giving credit where credit is due, and a human resources policy that promotes a willingness to learn among agency staff.

The climate of an organization emerges from the interaction of people and its basic underlying culture. Often incorrectly used as a synonym for culture, climate instead must be considered to be a reflection of the agency's culture and a reflection that is distorted by the qualities and abilities of the people in the group. Organizational climate consists of the values, norms, attitudes, behaviors, and feelings of the people within an organization. Leadership in federal government knowledge management programs can take many forms. It typically includes existence of an internal champion. A champion is typically a high-level administrator who has a strong faith in the ability of KM to do what it is designed to do for the agency. This entails strongly supporting the initiative in highest-level budget negotiations and giving program leaders enough slack to show that KM has long-term benefits. A champion also makes sure the program receives high visibility within the agency and among other government agencies.