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The Public-Sector Chief Knowledge Officer

The CKO is an administrator, a planner, and a marketer of the [organization's] knowledge assets.
(Wang, Hjelmerik, and Bremdal 2001, 28)

The chief knowledge officer shall act as the systems owner for all data and information warehouses, and shall provide assistance to all knowledge workers in the sophisticated use of knowledge and information tools.
(Gaston 1997, 117)

A still-controversial practice called knowledge management is winning converts throughout federal agencies. Leading the movement is a group of jump-up-out-of-your-seat evangelists known as chief knowledge officers. Already, 13 agencies have added these CKOs or some other knowledge management official to their hierarchies, usually reporting to the chief information officer.
(Harris 2001)

A number of uncertainties continue to plague the practice of knowledge management (KM) in both the private and the public sectors. These uncertainties may be exercising a braking effect on more widespread adoption of KM departments and functions. Among the more salient ambiguities is lack of consensus on exactly what KM *is*, and *where* in an organization the function should be located. Despite these still-unsolved difficulties, a consensus is emerging on the responsibilities and critical skills of the individual or individuals selected to guide its functioning in organizations. This chapter examines the responsibility and governance question, and then reviews some of the agreed-upon skills and responsibilities of the public-sector KM manager.

Chapter Objectives

This chapter has been framed on a set of objectives designed to help readers become familiar with the history and development of the chief knowledge officer position in government, and to:

- Understand how and why KM has gained acceptance among government managers, administrators, and elected officials.
- Appreciate some of the operational characteristics that shape the activities of the CKO.
- Understand the duties and characteristics of a public-sector CKO.
- Recognize some of the challenges public-sector knowledge managers face.
- Learn that a professional certification program exists and what it entails.

Growing Acceptance for KM

Government managers, administrators, and knowledge users are rapidly discovering what KM can do to improve government products and processes. This information is being spread rapidly. In 2005, at least three and probably more KM conferences were held in Washington, D.C., and in other cities in North America. Many of these maintained free attendance for government workers. In addition, KM conferences are also being held in cities across Europe. One such conference, Knowledge Content-UK, included speakers from such organizations as the Bank of England, the Home Office, the British Council (a public organization that promotes the UK and UK products abroad), and others, together with representatives from a variety of industries. Although KM is now a widely understood concept in most high-level government agencies, it is still not widely adopted in state or local government organizations.

One of the reasons for this spotty application of KM is that not everyone agrees on what KM is or should be. Although it may be hard to believe, a universally accepted role for KM is still being forged. Mark McElroy, a founder and president of *Knowledge Management Consortium International*, sees this as an expected sign of the relative youth of the discipline, explaining it thus:

One of the clear indicators of knowledge management's youth as a discipline is the extent to which its position in corporate [and government and nonprofit organization] structures can vary widely from one firm [organi-

zation] to another. Indeed, one of the more vexing problems for would-be knowledge managers is determining where to position themselves in the corporate [organizational] hierarchy. (McElroy 2003, 82)

Government administrators are increasingly cognizant of KM programs, but still have not come to an agreement on a definition of the function, let alone who in their organizations should lead the implementation and performance evaluation of the function. Illustrative of this lack of agreement on the content and scope of KM, what it can and should do, and who ought to be responsible for its implementation is the following question posed in the preface of a 2005 text on what the author believes is becoming a recognized discipline in organizational management:

Why [should] anyone dare if we still don't have a globally accepted definition of KM; let alone universally accepted frameworks, principles, and best practices? Many executives and managers don't even know that KM exists, or that it is the solution to many issues concerning improving organizational efficiency, effectiveness, and innovation. (Stankosky 2005, ix)

Managing the KM Function

Although many public- and private-sector organization leaders have accepted the need and rationale for knowledge management activities, not everyone agrees where management of the function should fall in the organization. Addressing this issue, Professor Nick Bontis observed:

We have a long way to go before we can be seen to be effectively managing our [organizational] knowledge, but the concept of knowledge management is here to stay. So too is the position of chief knowledge manager. (Bontis 2002, 25)

Emergence of the CKO Position

The position title of *chief knowledge officer* (CKO) appears to have surfaced as the preferred (although still not universally accepted) title for the person or persons who are charged with leadership of the function. However, many other titles are still extant. In government and nonprofit organizations, KM function leaders are still known by a wide variety of titles. To name a few: such diverse positions as chief information officer, chief learning officer, special advisor on learning and knowledge management, director of infor-

mation services, knowledge management director, knowledge management technologies program manager, knowledge management and technology transfer director, and many others. One observer even reported seeing business cards of persons working in the KM field with the whimsical titles of “Idea Percolator” and “Imagination Evangelist” (Bontis 2002).

The CKO title may have been a logical extension or emulation of the already accepted organizational positions of chief executive officer (CEO), chief operating officer (COO), chief financial officer (CFO), and chief marketing officer (CMO). However, it is more likely an evolution of the chief information officer (CIO) position title that is common in information technology functions. An indication of the close connection that remains between knowledge managers and chief information officers can be seen in Box 10.1, a partial job description announcement for a CKO position at the U.S. General Services Administration (GSA).

Two additional KM position openings were announced by GSA in 2003: one for a *knowledge manager* and one for a *Web-based knowledge manager*. The role of the knowledge manager was to plan, develop, and “articulate Knowledge Management Policy, Programs and concepts to the GSA culture.” The task of the Web-based knowledge manager was to conceptualize and execute “web-based Knowledge Management systems that are nationwide, GSA-wide, [and] business-specific in nature. [He or she] reviews market trends and technology changes and recommends specific functionality and appropriate technology investments to GSA top management, [and] provides Web-content through interconnections and relationships with research, academic, and business organizations” (Andre 2003).

Knowledge and the “Open Enterprise”

Mark McElroy (2003), a leader in the evolving KM discipline, cited an e-mail communication of Joseph M. Firestone regarding the KM leadership question in a discussion on what is needed to facilitate an “open enterprise.” Firestone, another pioneer in development of the discipline, was quoted as describing a collective approach to the leadership question by proposing a joint chief knowledge officer/ombudsman position, with the ombudsman reporting directly to the board of directors and not to the management hierarchy (McElroy and Firestone 2003). McElroy found that, even in those organizations where management of knowledge is led by a person with the title of chief knowledge officer, actual oversight of the function still varies widely, ranging from the IT office to research and development (R&D), finance, or human resources. He took issue with each these alternatives, opting instead for a greater degree of autonomy in the organization (McElroy 2003, 88).

Box 10.1

**Excerpts from a Job Description for a
Chief Knowledge Officer at GSA**

Nature and Controls

The position of Chief Knowledge Officer is located in the immediate office of the Administrator of the General Services Administration and reports directly to the Administrator. A key leadership position, the CKO is one of four “Chiefs:” knowledge, information technology, human resources, and finance. The incumbent has a broad mandate to maximize GSA’s intellectual capital, and manage knowledge to the benefit of its mission and employees.

Duties and Responsibilities

The incumbent is responsible for ensuring that GSA employees have the right information at the right time in the right place. Knowledge lives in people, while data and information reside in computers. The CKO provides the leadership required to successfully transform GSA into a learning organization that is flexible, agile, and open to change.

Working cooperatively with GSA’s CFO, CPO, and CIO, the CKO builds collaborative work environments, infrastructure, resources, and skills to provide the necessary enterprise architecture for knowledge management within GSA.

The CKO: (1) serves as a chief advisor to the Administrator . . . on all matters pertaining to knowledge management, including identification of goals, strategy, tools, measurements, targets and project management; (2) develops program management structure to support GSA’s major business lines and regional offices in selective pilot and demonstration projects related to knowledge management; (3) encourages, coaches, steers and directs, where necessary, these GSA initiatives to deliver positive and measurable results to the organization; (4) serves as a primary spokesperson within and out of the agency for GSA’s knowledge management program; (5) represents GSA at conferences, forums, consortia and academic seminars, as well as to the print media; (6) identifies highly knowledgeable and skilled employees and ensures that they maximize these skills in their jobs and careers, providing guidance and encouragement.

Source: Andre 2003.

Box 10.2

**Excerpts from a CKO Job Description for the Federal Energy
Regulatory Commission (FERC)**

Chief Knowledge Officer (Information Technology)

Major Duties

The chief knowledge officer (CKO) will oversee a new function, the Office of Knowledge Management and Integration, under the chief information officer. The CKO, breaking new ground in embracing the new, evolving knowledge management concept, is responsible for managing and overseeing the FERC knowledge management and technology resources in a manner consistent with the FERC missions and program objectives. The CKO ensures the management of knowledge and information assets enterprise-wide to improve decision-making processes.

Knowledge management includes all actions to ensure collection, storage, distribution, integration, and application of knowledge within an organization. In order for the FERC to evolve into a knowledge-based organization, the CKO must effectively manage its intellectual capital (knowledge) and information and records assets.

The CKO must ensure timely and accurate information to the staff and the public. This requires designing and implementing the FERC knowledge management architecture to support multiple roles and missions.

(continued)

An example of the IT connection is the position title found in the Federal Energy Regulatory Commission's announcement of a new CKO position (Box 10.2).

McElroy (2003, 82) described what he saw as a "clear distinction" between the roles of a chief information officer (CIO) and a chief knowledge officer (CKO). This distinction is not universally recognized, however. In agencies where KM is under the direction of a CIO, the organization tends to see KM as an application of information technology (IT). The CIO literature appears to be supporting his position, as McElroy noted: "This approach accounts for the fact that many IT trade publications, such as *CIO* magazine, have embraced KM as *one of their*

Box 10.2 (*continued*)

The CKO is responsible for ensuring effective knowledge collection and transfer of corporate knowledge and information assets to achieve gains in human performance and competitiveness. The CKO must promote electronic filing and electronic issuance, and make information readily available at the source versus submission of forms, and the establishment of standards for industry. This includes the responsibility for overseeing the overall planning, direction, and timely execution of the knowledge management program. In fulfilling this responsibility, the CKO role must include the acquisition of appropriate information and technology resources to enhance the ability of the workforce to gather knowledge-based information to perform missions more efficiently and effectively.

Qualifications

- Ability to manage knowledge, corporate strategies, and technology for leveraging intellectual capital and know-how to achieve gains in human performance and competitiveness.
- Ability to formulate and implement knowledge management policy initiatives, and to direct an organization in the accomplishment of short- and long-term objectives.

Source: FERC 2005.

own, and now routinely treat it as though KM is nothing more than the latest rage in IT.”

Another example of the connection between IT and knowledge management in government can be found in the listing of the responsibilities of a public-sector CIO in the U.S. Air Force’s 2005 appointment of a new CIO. The new CIO was to hold the newly established title of “office of the secretary of the Air Force, chief warfighting integration and chief information officer.” According to the appointment announcement, the office would bring all IT policy formulation, execution, and resources, and workforce governance activities, under a single organization. The new organization consolidates the offices of communications operations, chief information officer, and deputy chief of staff for warfighting integration (Tiboni 2005).

Practices Shaping the CKO Role

Laurence Prusak, one of the pioneers of modern knowledge management, identified three organizational practices that have brought most of the content and energy to knowledge management (Prusak 1997). These are information management, the quality movement, and the human resources and human capital movement.

Information Management

This movement evolved during the decades of the 1970s and 1980s as a synthesis of the broader fields of information technology and information science. Information management refers to the activities and management theories that focused on how information in organizations is managed, independent of the technologies involved in collecting, storing, and processing the information. In a word, it was more concerned with the *social* side of communication. Information is studied to determine how it is valued in an organization, the operational processes involved in dealing with information, control and governance of the function, and the rewards and incentives associated with its management.

This aspect of the greater responsibilities of the CKO requires a focus on the values that knowledge users place on information—that is, their satisfaction with the availability and receipt of information—rather than on improving the efficiency of the technology that stores and delivers the information to users. Information management and knowledge management are concerned with the *quality* of the information, and how much it benefits its users.

The Total Quality Management (TQM) Movement

Developed from initiatives to improve manufactured products—promoted to its zenith in post–World War II Japanese industry—the TQM movement in government focused on improving the delivery of products and services to internal “customers” as well as external clients. The movement evolved from what some perceived as a one-time effort to instead become a constant process of continuous product (or process) improvement (CPI).

Knowledge management owes a large debt to the CPI process, although with a much broader scope. Instead of focusing on the product or service delivered, KM and the CKO are involved in applying lessons learned and best practices to improving everything the agency does. The knowledge officer is involved with helping to facilitate a valuing of information and knowledge not for itself, but for what it can do when shared and combined. A

quality perspective results in improving products and services; knowledge management results in innovation in products, processes, procedures, and services. Moreover, knowledge management has the power to assist the agency toward becoming a learning organization.

The Human Capital Concept

Human capital refers to the management processes of empowering workers and valuing their knowledge, experiences, and abilities to create and innovate. The knowledge management philosophy looks upon workers as assets rather than expenses. Organizations gain benefits far greater than the costs involved in making investments in their people; these investments are usually in the form of training and development programs. On this basis, one of the most important responsibilities of the CKO is collecting the stories of employees' past successes and failures and making that collected knowledge available to other government agency workers. The community of practice developed by U.S. Army company commanders is an excellent example of the value of this KM activity.

The next section outlines some of the chief functions of public-sector chief knowledge officers—regardless of their actual title—and includes several case examples of evolving government CKO positions. The cases represent KM developments in the U.S. military, one of the branches of the federal government to more fully integrate knowledge management programs and policies into their operating systems.

Functions of the Public-Sector CKO

If some voids in the framing of the KM function still remain, it is no wonder that establishing the focus of leadership and responsibility for the person charged with carrying out the function is still somewhat fuzzy. However, steps are being taken to rectify this state of affairs. Beginning in 2000, a group of public-sector KM practitioners and vendors (providers of hardware, software, and related services) came together to chart some preliminary steps in the path toward consensus on what it is that knowledge managers do and how to hold them accountable for their actions. Calling themselves the Federal Government KM Working Group, they met in a series of brainstorming sessions to define and frame KM applications in government organizations. The sessions were held at the Information Resources Management College of the National Defense University.

A key product of those early sessions was an outline of the fundamental roles, skills, knowledge and intellectual capacities, and performance respon-

sibilities of the typical public-sector knowledge officer. To be successful in the role of knowledge manager, a public-sector CKO has to exercise competency in the following management processes: leadership and management, communications, strategic thinking, IT tools and technologies, personal behaviors, and personal knowledge and cognitive capabilities (intelligence).

Illustrative of the tasks typically assigned to the public-sector CIO are those described in 2005 for the newly appointed information officer for the U.S. Air Force, Lieutenant General William T. Hobbins (Tiboni 2005). General Hobbins was the first director of a newly reorganized office that combined the offices of communications operations, chief information officer, and deputy chief of staff for warfighting integration. In his new position General Hobbins became responsible for all of the Air Force's IT policy determination, execution of IT policy, and resource and workforce governance.

The Federal Working Group also emphasized that a government chief information officer (CIO) is not the same thing as a public-sector chief knowledge officer (CKO). The government CIO is typically focused on management of the organization's physical computer and network assets. The CKO, on the other hand, is more likely to be concerned with a complex set of activities that reflect *human behaviors* in organizations. These include, but are not limited to, such actions as work processes, reward systems, knowledge collecting and sharing, information dissemination, and similar social actions. Accordingly, the work of the public-sector CKO was seen as involving the following primary activities:

- Participating in forging and implementing a knowledge management strategy.
- Developing leadership skills in managers and workers.
- Determining best practices and/or processes within and without the organization.
- Fostering a knowledge-sharing culture among individuals, groups and teams, and the organization as a whole.
- Identifying and promoting establishment of *communities of interest* and *communities of practice* within and without the organization.
- Recommending and administering rewards and other incentives for knowledge sharing, innovation and creativity, and learning within the organization.
- Specifying ICT tools and related technologies to leverage the existing intellectual base in the organization.
- Identifying and rationalizing taxonomies (classification schemes) of organization information.
- Managing the organization's education, information, and communication technology resources.

The KM Working Group summarized its recommended skills, knowledge, and abilities of a public-sector knowledge officer by stating that the function of the chief knowledge officer is first to create and maintain an environment and atmosphere within which all workers deliver value to the organization. (Adding value occurs with the collection and application of existing and unexploited explicit and tacit knowledge resources.) Second, CKOs must be engaged in identifying, charting, and discovering connections and networks in organizational and information processes, classification schemes, and tools to access and use existing data, information, and explicit and tacit knowledge in a manner that promotes sharing across time, space, and boundaries (FKMWG 2000).

Stephen J. Gaston (1997, 128), a former PricewaterhouseCoopers management consultant, identified these eight activities and responsibilities for a chief knowledge officer:

- Maintains a repository defining the location and meaning of the organization's data, information, and knowledge.
- Provides advice to others on the available data, information, and knowledge.
- Defines and communicates availability and instructions on the organization's information and knowledge tools.
- Assists others in the uses of advanced information and knowledge tools.
- Assesses how data may be obtained, stored, and accessed in the most effective and efficient way.
- Keeps abreast of information and communications technology as they relate to information and knowledge tools.
- Works with the chief information officer to define and maintain the organization's enterprise architecture as it relates to sharing of data, information, and knowledge, and the nature and availability of knowledge tools.
- Acts as a "systems owner" for all data and information warehouses.

Characteristics of a Public-sector CKO

A research team led by Michael J. Earl and Ian Scott (1999) conducted a series of in-depth interviews with chief knowledge managers in North America and Europe to determine which common characteristics, if any, are held by CKOs. Earl and Scott found that the KM managers had at least two chief characteristics in common: First, they were all highly knowledgeable in information and communications technology. Second, they also exhibited strong organizational environment skills and awareness. Their technical knowledge

included understanding what information and communications technologies (ICTs) were needed in their organizations to capture, store, manage, organize and interpret, and, in particular, share knowledge within and without the organization. Anecdotally, they also found that most of the CKOs in the study were firmly entrenched in the ICT operations of their organizations. The organizational skills may be grouped into the more recognizable category of “people skills.” The following statement by one of the respondents adds further clarification to the concept:

Unless I can persuade people [in the organization] that knowledge management is not just for the benefit of other people, I haven't got much hope of persuading them to buy into it. They have to believe there's something in it for them and that I care about that as much as they do. Otherwise it just comes across as the latest form of cynical manipulation. (Earl and Scott 1999, 4)

A common thread found to exist across the sample of CKOs was a mix of activities that could be grouped together under the category of “conceptual design.” This included designing knowledge directories (who in the organization knows what and where to find them), knowledge-intensive business and management practices, and events where knowledge exchanges can occur. In addition, CKOs were involved in the design of physical spaces to facilitate knowledge sharing (such as “in-house coffee shops” and the like). Finally, CKOs also designed methods, policies, and processes for knowledge protection.

According to Stankosky (2005), a general consensus exists on what should be considered the fundamental tenets of KM. He added that, despite the confusion that remains in many areas of the concept, widespread agreement has emerged on most of the basic principles of KM. He identified the following four fundamental principles as forming the core of all knowledge management applications and, therefore, necessary characteristics for holders of the CKO position: *leadership*, which must frame organizational culture, vision, strategic planning, and communication; *organization*, which involves the forming of such operational aspects as which functions, processes, procedures, and formal and informal structures are best for the organization; *technology*, which, of course, means the information and communication technologies (ICTs) that make knowledge sharing possible in organizations, including such tools as e-mail, data warehousing, search engines, content management programs, and similar technological functions, hardware, and programs; and *learning*, which includes such behavioral aspects of operations as innovation, creativity, invention, teams, shared

information and results, exchange forums, and other activities. Stankosky added that subsequent developments in the discipline, including a growing list of published professional and academic literature, suggest that these four pillars of the discipline have been accepted as the basis upon which all KM programs must be established.

Activities of Knowledge Managers

In a study of a mixed bag of forty-one industrial, service, and service-sector KM-function managers from the United States, Canada, Europe, and Asia, McKeen and Staples (2001) identified nine key KM activities carried out by the respondents:

- Creating and managing an intranet
- Creating knowledge repositories
- Establishing and managing a data warehouse
- Creating internal networks of knowledge workers in communities of interest (CoIs) and/or communities of practice (CoPs)
- Implementing groupware to support collaborations
- Mapping sources of knowledge and expertise in the organization
- Launching new knowledge-based products or services
- Establishing new knowledge roles
- Implementing decision-support tools

Of these nine key activities, the most commonly cited activity was creating and managing an intranet (more than 90 percent), followed by creating knowledge repositories and data warehousing (80 percent each), and creating internal networks (nearly 70 percent).

The 1999 Earl and Scott findings were generally replicated by Bontis in a 2002 study of more than twenty-five international CKOs. Bontis determined that the two most common characteristics of the international sample were: (1) an understanding of the technologies that contribute to the capture, storage, and sharing of knowledge, and (2) skills and knowledge in human resource management that gave them an ability to understand social network behavior in their organizations.

Key Challenges Facing the CKO

A number of authors have identified a variety of issues and concerns that CKOs reported as among the chief challenges they faced (Wiig 1994; Duffy 1998; Ruggles 1998; McKeen and Staples 2001).

Wiig identified the “central challenge” as determining how to effectively create, build, and leverage knowledge of both the individual employee and the entire organization. A second challenge was how to establish a way to include the best possible knowledge in creating and managing products and services in ways that provide the greatest possible value to customers, clients, and other stakeholders.

Duffy (1998) reported the results of an earlier study of fifty-two CKOs in which the following challenges were discussed:

- Setting knowledge management strategic priorities
- Establishing a knowledge database of best practices
- Gaining the commitment of senior executives to support a learning environment
- Teaching seekers of information/knowledge how to ask better and smarter questions of their knowledge resources
- Putting in place a process for managing intellectual assets
- Obtaining customer satisfaction information in near real time
- Globalizing knowledge management

Ruggles found that CKOs considered these three activities to be their greatest challenges: (1) changing people’s behavior (to value and share knowledge); (2) measuring the value and performance of the organizations’ knowledge assets; and (3) determining which knowledge needs to be managed.

McKeen and Staples found that little had changed over the three years since the completion of the Ruggles study. Using a five-point scale ranging from *Not a Problem* (1) to *A Severe Problem* (5), McKeen and Staples found changing people’s behavior to still be the CKOs’ greatest challenge. This was followed by measuring the value and performance of knowledge assets; justifying the use of scarce resources; mapping existing organization knowledge; attracting and retaining talented people; and determining what knowledge should be managed.

Government-Approved KM Certification

In December of 2000, the Federal KM Working Group (FKMWG) invited industry and academic institutions to join them in developing a list of the most important skills and knowledge needed for a government-approved KM certification program (Faget 2004). The group identified fourteen learning objectives important for KM certification. These objectives covered necessary competencies, ways to facilitate the flow of information, and tools needed

for implementation of KM programs in the government sector. Although they were developed specifically for the federal government, they can be seen to apply equally to both state and local government as well. The fourteen objectives, published as a “candidate list” of learning objectives for a KM certification program, are as follows (Fagot 2004):

1. Knowledge of the value added by knowledge management to the [organizational purpose], including the return on investment, performance measures, and the ability to develop a business case.
2. Knowledge of the strategies and processes to transfer explicit and tacit knowledge across time, space, and organizational boundaries, including retrieval of critical archived information enabling ideas to build upon ideas.
3. Knowledge of state-of-the-art and evolving technology solutions that promote KM, including portals and collaborative and distributed learning objectives.
4. Knowledge of and the ability to facilitate knowledge creation, sharing, and reuse including developing partnerships and alliances, designing creative knowledge spaces, and using incentives structures.
5. Knowledge of learning styles and behaviors, striving for continuous improvement, and being actively engaged in exploring new ideas and concepts.
6. Working knowledge of state-of-the-art research and implementation strategies for knowledge management, information management, document and records management, and data management. This includes project management of knowledge initiatives and retrieval of critical archived information.
7. Understanding of the global and economic importance of developing knowledge-based organizations to meet the challenges of the knowledge area.
8. Ability to use systems thinking in implementing solutions.
9. The ability to design, develop, and sustain communities of interest and practice.
10. The ability to create, develop, and sustain the flow of knowledge. This includes understanding the skills needed to leverage virtual teamwork and social networks.
11. The ability to perform cultural and ethnographic analyses, develop knowledge taxonomies, facilitate knowledge audits, and perform knowledge mapping and needs assessments.
12. The ability to capture, evaluate, and use best-known practices, including the use of storytelling to transfer these best practices.

13. The ability to manage change and complex knowledge projects.
14. The ability to identify customers and stakeholders and tie organizational goals to the needs and requirements of those customers and stakeholders.

Examples of Public-Sector CKO Positions

CKOs in government and in business and industry clearly have similar responsibilities and skills. However, the political dimension of government results in a difference in focus for the public-sector CKO, who is not influenced by bottom-line constraints. The following examples of federal CKO activities illustrate these differences.

The U.S. Defense Department CKO

In 2003, the Department of Defense (DoD) published a detailed, seven-page description for a support position for the newly established office of the director of knowledge management: a *computer specialist (knowledge management)*. The person hired for the new position was required to have the qualifications described in Box 10.3. The U.S. Defense Information Systems Agency (DISA) locates its knowledge management close to the IT function. A 2003 job description for an information technology specialist placed the position in the office of the chief transformation executive (CTE), Knowledge Management Office. The role of the specialist is to “develop and manage an integrated approach for capturing, sharing, and reusing enterprise information and intellectual assets, including the development of KM policies” (Andre 2003).

It is interesting to note that this announcement signals an as yet little-spoken-about power of knowledge management: the ability of both terrorists and our own military to use information technology and knowledge management to wage cyber warfare—and the military’s efforts to protect against such terrorist activity. A primary role of the specialist was to provide information and knowledge program management and senior staff-level support for the Command, Control, Communications and Intelligence (C3I) of the Secretary of Defense.

The objective identified for the new office was to “improve the organizational environment for valuing, generating, sharing and applying knowledge.” A typical C3I activity is management of the Information Warfare (IW) program. The DoD has issued the following unclassified definition of IW:

[IW includes all] actions taken to achieve information superiority by affecting adversary information, and information systems, while defending

Box 10.3

Required Qualifications for a DoD KM Specialist

- Broad and expert knowledge of planning, conducting, and directing Knowledge Management efforts. In-depth knowledge of DoD policies, processes, and procedures related to KM and related disciplines and technologies.
- Expert skills in working closely with high ranking officials (Assistant Secretaries, flag officers, Pentagon officials, Joint Chiefs, OMB, White House officials, etc.) in order to gain support for and evolve the KM program through shared resources, techniques, and partnerships.
- Expert knowledge of federal and DoD contracting to manage large KM, and related technological projects for KM.
- In-depth and current understanding of planned KM trends, standards, approaches, and tools.
- Expert skills in project management to be applied to large, critical, and complex DoD systems.
- In-depth and expert understanding of the trends and characteristics of the industrial base that supports KM and information systems.
- Expert writing skills to justify and acquire resources to accomplish projects. Expert marketing and strategic planning skills to accomplish Departmental technology transfer. Skills in writing business/process documentation, developing models and graphics, and making oral presentations to senior DoD officials, conferences, and task forces. Expertise in facilitation or high-level group analytic sessions to include skills in resolving conflicts and achieving consensus.

Source: U.S. DOD 2003.

one's own information, information-based process, and information systems. (Fredericks 2002)

The CKO in the U.S. Navy

The U.S. Navy has identified knowledge management as a distinct career path for civilian staff, with eleven different job positions. The navy prefaced a description of the position titles with this broad definition:

The Knowledge Management Career Area involves creating a knowledge-centric organization. This is accomplished by providing the right informa-

tion to the right decision maker at the right time, thus creating the right conditions for knowledge to be created. Employees in this new and evolving career area possess a commitment to put information to work for the Department of the Navy enterprise. (Knox 2005)

Job titles and brief descriptions for the eleven positions included in the announcement are included here because of their general applicability across all public-sector agencies considering adopting a KM initiative. The positions, as defined by the KM.gov paper, are as follows:

Chief Knowledge Officer (CKO): Manages the knowledge-sharing process at the command level; leads efforts to move the organization to knowledge centrality; requires a dedication to KM principles, the ability to discuss the benefits of knowledge sharing, and the vision to ensure that KM initiatives are adopted by the organization . . . fosters cultural change, defines roles, skill sets and opportunities for knowledge workers, and facilitates training and education of knowledge workers.

Knowledge Manager (KM): Working with the CKO to implement KM initiatives; manages KM efforts. Looking across KM processes to capture tacit and explicit knowledge and often involves balancing technology, information, processes, and individual and organizational learning within a culture of shared values.

Knowledge System Engineer (KSE): This involves turning KM ideas into workable solutions by engineering appropriate knowledge-sharing Internet/intranet sites, rules-based systems, portals, databases, etc. Requires intimate knowledge of the systems, architectures, technologies, standards, and protocols for KM.

Knowledge Process Manager (KPM): This position involves focusing on the organizational processes of KM and content integration; manages the efforts of the knowledge transfer engineer, knowledge research engineer, and knowledge life-cycle engineer. Develops process models for optimal organizational effectiveness.

Knowledge Transfer Engineer (KTE): Involves capturing and codifying tacit knowledge, making it available for reuse. Connects people to enable the transfer of tacit knowledge to explicit knowledge.

Knowledge Research Engineer (KRE): Involves making explicit knowledge from available resources and integrating content in KM systems into easily accessible knowledge for decision makers.

Knowledge Life-Cycle Engineer (KLE): Ensures information for knowledge systems is current, appropriate, and changed as needed; handles information creation and disposal for the organization.

Knowledge Community Leader (KCL): Facilitates the operation of com-

munities of practice across organizations to foster innovation, improved performance, and collaboration.

Intellectual Capital Manager (ICM): Develops the workforce and ensures the human capital aspects of KM are fully integrated. The ICM uses KM to increase the performance and the learning of the organization and identifies gaps in KM competencies.

Performance Measurement Engineer (PME): Focuses on measuring and assessing the knowledge-centric organization model implementation and architecture. The PME performs analysis, develops predictive models, shows the potential impact of change, and provides implications for validation of the knowledge-centric organization model.

Knowledge Assurance Manager (KAM): Ensures the assimilation of information and knowledge is protected from unauthorized access and/or disclosure.

Conclusion

Many public- and private-sector organization leaders have accepted the need and rationale for knowledge management activities. However, not all agree where management of the function should fall in the organization. The position title of *chief knowledge officer* (CKO) is the person charged with leadership of the function, although many other titles still exist, including chief information officer, chief learning officer, special advisor on learning and knowledge management, director of information services, knowledge management director, knowledge management technologies program manager, knowledge management and technology transfer director, and others.

Three of the management practices that have contributed the most toward the development of the knowledge management discipline and to the shaping of the CKO position are the information management concept, the product/service quality movement, and the growing awareness of the value to an organization represented in its human capital.

The government chief information officer (CIO) has different responsibilities than the public-sector chief knowledge officer (CKO). The CIO focuses on management of the organization's physical computer and network assets, while the CKO is more likely to be concerned with a complex set of activities that reflect *human behaviors* in organizations, including but are not limited to, such actions as work processes, reward systems, knowledge collecting and sharing, information dissemination, and similar social actions.