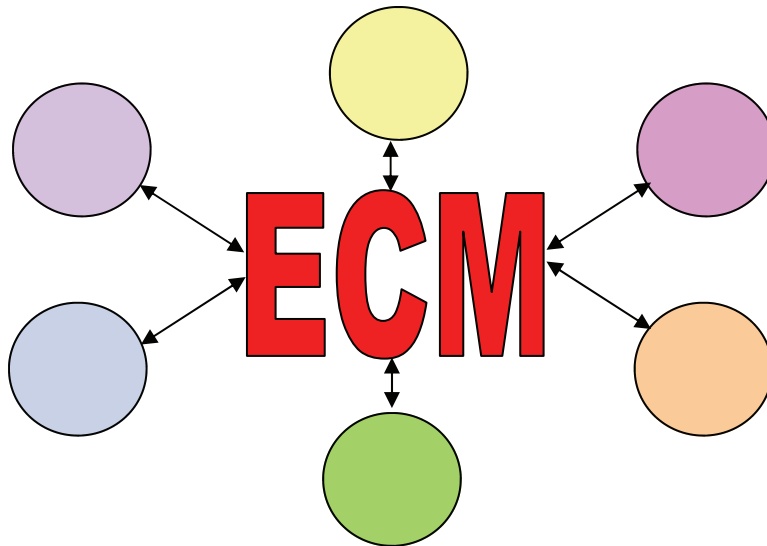


SMR International Management Action Plan for Knowledge Services

ENTERPRISE CONTENT MANAGEMENT (ECM) FOR KNOWLEDGE SERVICES



A STRATEGIC APPROACH TO KNOWLEDGE ASSET MANAGEMENT

BY DALE STANLEY AND GUY ST. CLAIR

SMR INTERNATIONAL MANAGEMENT ACTION PLANS FOR KNOWLEDGE SERVICES

Putting KM to Work

MANAGEMENT MANUALS FOR KNOWLEDGE SERVICES: BACKGROUND – PRACTICES – PROCESS

Building the Knowledge Culture:
The Knowledge Services Effect

The KM/Knowledge Services Continuum:
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KNOWLEDGE SERVICES:
A STRATEGIC APPROACH TO KNOWLEDGE ASSET MANAGEMENT**

SMR INTERNATIONAL MANAGEMENT ACTION PLAN

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SERIES INTRODUCTION: KNOWLEDGE SERVICES AND THE KNOWLEDGE CULTURE

Since the early 1900s, organizations have struggled to identify and manage practical and utilitarian information, knowledge, and strategic learning. The 20th century continuum from information management to knowledge management to knowledge services now enables the knowledge culture.

It is now clear that the knowledge continuum which began early in the last century has brought a new understanding and respect for knowledge to the management community. By the early 1900s, business leaders were beginning to recognize that change was needed with respect to information management, knowledge management, and strategic learning (although these functions were not called that yet), and they began to give attention to distinguishing “practical and utilitarian” information from that sought for personal edification, educational purposes, or entertainment. As a result, the 20th century offers many examples of how workers in the sciences, business, and research struggled to deal with the information, knowledge, and strategic learning required to support their work.

With a practical approach to the management of information, knowledge, and strategic learning within the larger organization, the company realizes the advantages of excellence in knowledge asset management, strengthened contextual decision-making, accelerated innovation, and higher-level research.

By mid-century, business management had begun to take a hard look at how information was managed. Following World War II, the management of information (particularly scientific information) had reached a crisis point, and the struggle to deal with overwhelming quantities of information was on-going. Information science—as a new discipline for dealing with the situation—became a major influence. The management of information and the move toward the much talked-about “information age” provided many strong and lasting contributions to business management, but it did not seem to be enough. More effort was required, and by the last decade of the century, when Thomas A. Stewart identified “intellectual capital” as an important business assets, the evolution of knowledge management (KM) was well under way; organizational managers began to recognize that business success could be realized when the company’s knowledge could be harvested and retrieved for business purposes. With the 21st century, knowledge services came onto the scene and was soon acknowledged as the *practical* side of knowledge management. As enterprise leaders sought to “put KM to work”—as the effort was characterized—they came to understand that with knowledge services, its value lay in its very practicality; indeed, with this practical approach to the management of information, knowledge, and strategic learning, managers came to understand that the organization has the advantages of higher-level research, strengthened contextual decision-making, and accelerated innovation.

Knowledge development and knowledge sharing (KD/KS) leads to an environment in which success at all levels is supported by a willingness to share information, knowledge, and strategic learning.

The new emphasis on the role of knowledge in the operational environment turned out to be a different way of looking at the organization’s intellectual assets, its collective knowledge. As a result, knowledge development and knowledge sharing (KD/KS) is now clearly desired in the modern, well-managed organization. Enterprise leaders recognize that the knowledge-*centric* organization is one in which success at all levels is supported by a willingness to share information, knowledge, and strategic learning developed within or for the organization. A beneficial side effect has been that transparency

(that is, openness and a lack of “hoarding” in transactions having to do with information, knowledge, and strategic learning) is now understood to be for the common good, and the old days of “information power” seem to be gone. Thus for many with management authority, KD/KS becomes a necessary ambition. If the larger goal of the organization is to achieve success (however success is defined in the specific operational environment), understanding that the data-information-knowledge-learning-sharing construct can be directly applied in the KD/KS process becomes a valuable component in enterprise success, enabling quality management with respect to the organization’s information, its knowledge assets, and the arrangement of its strategic learning programs (both formal and informal learning programs).

The Organizational Knowledge Culture. All of these knowledge-focused elements come together in knowledge services, the management and service-delivery methodology that converges information management, knowledge management, and strategic learning. With this convergence, the enterprise moves to what we recognize as a *knowledge culture*. It is a much desired state of affairs, this knowledge culture, if the comments and aspirations of many in the management community are taken at face value. It is not unusual in situations in which an organization is conducting a knowledge audit or developing a strategic plan for knowledge services for there to be reference to a knowledge culture, as in “What we need in this company is a culture that helps us use what we know,” or “How can we change the culture of the organization so our workers understand the value of sharing the knowledge they develop?”

The obvious response to questions like these is knowledge development and knowledge sharing, but as is pointed out by many leaders in the field, KD/KS does not happen automatically. In fact, some managers are reticent about KD/KS and demonstrate a certain skepticism about the idea of a knowledge culture, asserting that KD/KS cannot be directed but must evolve from a willingness on the part of all players to share the knowledge they bring to the process (or develop). Of course. The whole point of knowledge management, knowledge services, and building and sustaining the knowledge culture is to move *away* from the command-and-control management framework, and it can be safely asserted (certainly it is the belief of the present authors) that the *purpose* of knowledge services is to create an environment for a knowledge culture in which the willingness of all enterprise stakeholders to share knowledge is fundamental and a given.

It is not such a stretch, this quest for a knowledge culture. For many years organizational leaders have lamented the fact that much information, knowledge, and strategic learning is not shared, and that this lack of sharing inhibits good workplace performance. At the same time (particularly since the growth of KM and management’s interest in KM over the past two decades), the informal sharing of information, knowledge, and learning—the famous “water-cooler” or “elevator”

Enterprise leaders recognize that conversation, collaboration, and cooperation are natural elements in the knowledge-centric organization and contribute to the role of knowledge services as a

conversations—has led to great efforts in attempting to identify elements of these sharing activities that can be developed into management principles. Adding to the interest in knowledge services has been the development and acceptance of a management style that recognizes the value of conversation, that collaboration and interactive cooperation are all basic building blocks in the knowledge-centric organization and contribute to the successful deployment of knowledge services as a practical and utilitarian methodology supporting the development of a knowledge culture.

The knowledge culture has been defined and its attributes listed. Just as culture itself is an accumulation of shared beliefs and values within a particular population, so, too, is the knowledge culture an accumulation of shared beliefs and values—most often within an organization or other group of people—about knowledge and the application of knowledge for that organization or group’s success. Within the knowledge culture, specific attributes (identified by one of the present authors) apply. These are:

The attributes of the knowledge culture are described in more detail in the Epilogue to *SLA at 100: From Putting Knowledge to Work to Building the Knowledge Culture*, by Guy St. Clair.

The management perspective for the knowledge culture is detailed in the SMR International Action Plan *Building the Knowledge Culture: The Knowledge Services Effect*.

1. Strength in collaboration (with no disincentives for collaboration)
2. Respect for and support of the integrity of the knowledge process, with an emphasis on transparency (except in clearly defined situations requiring proprietary discretion or security), honesty, and trust
3. Focus on the larger organizational role and the benefits for the larger organization (not on individuals or individual departments)
4. Professional allegiance to the organization or enterprise; allegiance to an external influence, such as a profession or a school of thought or a political, religious, or social philosophy, is secondary
5. Enthusiasm for information technology and communication in the knowledge development and knowledge sharing (KD/KS) process
6. Respect for and enthusiasm for knowledge services as a management and service-delivery methodology
7. Respect for the intellectual foundation for the effort; the intellectual quest is not disdained
8. The recognition that intellectual capital is an essential and critical organizational asset and that KM—however defined—is a legitimate functional operation in the organization.

Information Professionals: Change Agents for Knowledge Services. For the information professional, the management employee with responsibility for knowledge services, there is a very specific role in the organizational knowledge culture. That manager—who in some environments is referred to as a “knowledge services manager,” “specialist librarian,” “research assets manager”—maintains beliefs and values about knowledge that build on and connect with an understanding of the organization of information, knowledge, and strategic learning and of how those disciplines converge for the benefit of the larger enterprise. Information professionals also have a clear

With respect to knowledge services, the organization's information professionals are its natural managers. They understand the relationship between knowledge and technology and make the connection between strategy and system development.

Read the full text of the 2003 SLA Competencies Statement [here](#).

The competencies are expected to be put to work in the "new" specialized library, which was discussed in detail at a private [leadership summit](#) in March, 2007.

Knowledge services is knowledge catalysis. Once knowledge has been developed, value is created through KD/KS, resulting in opportunities that produce tangible results.

understanding of the relationship between knowledge and technology. They are eminently qualified (probably better than any other group of workers in the organization) to make the connection between strategy and the planning, design, and implementation of information, knowledge, and strategic learning systems. They are thus positioned, these information professionals, for playing a leading role in delivering knowledge services, the *practical* side of KM, and for putting knowledge management to work in support of the larger organizational mission.

It is an important distinction, this knowledge services leadership role for information professionals, and one that has been identified in the competencies statements published by SLA, the international membership association for information professionals. Recognizing that they are employed in organizations that deliver "information-based solutions to a given market," these information professionals identify themselves as knowledge thought leaders for the organization. Their workplace (variously defined as a research center, a specialized library, an information center, a competitive intelligence business unit, an intranet department, a knowledge resource center, a content management unit, *etc.*) is positioned to be the organizational *knowledge nexus*, if that is what enterprise leadership wants for the organization. The management of that function (which we generally categorize as a "knowledge services business unit") falls particularly within the professional domain of these knowledge workers. They have the professional expertise, skills, and competencies to provide an overarching and holistic knowledge asset management framework for the organization, enabling the many pieces of information, knowledge, and strategic learning scattered throughout the organization to connect and work together for the common good. These same skills and competencies ensure that these information workers understand their responsibility to ensure that excellence in KD/KS is provided for the knowledge culture upon which the larger enterprise is built. They are professionally committed to take whatever path is required to achieve that excellence.

As knowledge thought leaders, these information professionals take seriously their leadership role, and in bringing knowledge integration to the larger organization, they carefully distinguish between knowledge management and knowledge services. They understand that "knowledge management" is sometimes an inappropriate descriptor, and recognize that knowledge *per se* cannot be managed, although—as is often described—KM can be characterized as *working with knowledge*, for example, or as managing the knowledge *eco-structure*, or as knowledge *searching*. For Dale Stanley, another of this Management Action Plan's authors, the most practical approach is to focus on knowledge services. Instead of attempting to define KM, Stanley advises organizational management to move to knowledge services, considered by some to be very close to or the equivalent of the KD/KS process: "Knowledge services can be considered *knowledge catalysis*," Stanley says. "That is, once knowledge has been developed,

The leadership role of the information professional with respect to knowledge services is described in: [“Knowledge services and SLA’s history: nearly 100 years of putting knowledge to work: an interview with Guy St. Clair.”](#)

value is created by facilitating an interaction (knowledge sharing) among those who have knowledge and those who need to work with knowledge. It is the creation of knowledge *value* through KD/KS, finding and leveraging opportunities that produce tangible results.”

Information professionals are the natural employees for creating knowledge value for they are, if nothing else, true knowledge, information, and strategic learning catalysts.* They clearly understand the place of positive change in the workplace and they express no doubts about their role in the creation of knowledge value. Indeed, information professionals—whether known as knowledge specialists, specialist librarians, or by any of the many other job titles applied to them as knowledge workers—have long distinguished themselves in providing added value to the information, knowledge, and strategic learning delivery process.

Like Stanley, Alvin L. Jacobson and JoAnne Sparks recognize the value creation objective. They demonstrate that it is through the successful management of the “strategy-focused” knowledge services functional unit that creating knowledge value is realized. Jacobson and Sparks take the position that to begin the process—whether for knowledge services or any other element of knowledge management and knowledge services—information professionals must identify and work with four essential elements in the process:

1. Determine the central value proposition and objectives of the plan
2. Conduct an opportunity assessment of existing services, projects, technologies, and skill sets against the value proposition
3. Build strategic maps that show how you plan to get from where you are today to where you want to be tomorrow
4. Design and implement a measurement system that will monitor ongoing performance to plan and enable “mid-stream” corrections.

The key element, of course, has to do with change, and the importance of embracing change for the good of the larger enterprise. As became evident during the last years of the 20th century—when information management was evolving into KM and then into knowledge services—and as knowledge services now moves into supporting the development of the knowledge culture for businesses and organizations, the ability to move fast and to generate tangible returns becomes critical to organizational success. These qualities—speed of delivery and ROI—are no less true for knowledge management and knowledge services than for any other management tool, and it is through the application of change management principles that speed of delivery and ROI are achieved.

* Recognizing this leadership role, and to encourage clarity and consistency, the authors use the term *knowledge services director* to describe the information professionals who have operational responsibility for the management and delivery of knowledge services.

Every information professional seeking to lead knowledge integration in the organization must master change management.

While the term “change management” has become something of a cliché during the past few years—perhaps from overuse but just as likely from its characterization as something few managers want to deal with—the concepts that underlie change management continue to be valid and important in organizational management. For every information professional interested in leading the organization into a knowledge integration “mode” as the organization transitions to a knowledge culture, mastering change management becomes, in and of itself, a critical management tool.

As long ago as 1991, it was being asserted by David S. Ferriero and Thomas L. Wilding that organizations must be in a constant state of openness to change if they are going to maintain a high degree of relevance. Thus change aimed at maintaining corporate relevance can be seen as both desirable and inevitable, an idea that has probably contributed to the “mantra” that has come to guide information and knowledge thought leaders in the company. Indeed, recognizing the desirability and inevitability of change and developing (or employing already developed) skills for building a foundation for change, for managing resistance, for encouraging participation, and for creating methods for rewarding and recognizing enterprise stakeholders who successfully embrace KD/KS have become major factors in determining knowledge services success. They lead directly to KD/KS. They bring attention and credibility to the importance of understanding and utilizing change management (however the activity is designated in the workplace) in the development of the knowledge culture, and they should not be underestimated.

Thus as we look to the development of a knowledge services focus for the larger organization, we consider a number of underlying themes:

- the extent to which the enterprise is perceived and enabled as a knowledge culture by all its stakeholders (and in particular the organization’s managers and leaders, exemplified by their participation as sponsors in the management of an enterprise-wide knowledge services strategic framework)
- perceptions of value with respect to knowledge and the role of knowledge services in the creation of business value
- elements of organizational success at play in the larger enterprise and how these are monitored and measured
- change management and change implementation as an operational construct.

When these themes are recognized as part of the organization’s functional structure and all enterprise affiliates understand how they affect organizational success, attention to a strengthened knowledge services focus can begin and the knowledge culture—elusive until now and thought, perhaps, not to be possible—is at hand.

AUTHORS' INTRODUCTION

Enterprise content management (ECM) is acknowledged as a critical element in organizational effectiveness, but that has not always been the case. Indeed, it has been only in the last few years that management attention has been directed to the benefits of enterprise-wide content management, but any experienced organizational leader will easily speak about how he or she has long wanted some scheme or tool to break down the infamous organizational “silos” or “smokestacks” we all hear so much about. Today, thanks to advances in electronic data processing (which we now call information technology or IT) and the elevation of knowledge capture to an operational function that responds to scientific study and professional management, ECM is no longer a fantasy. True, we may not yet be at the stage where every contextual element can be identified, codified, captured, disseminated, stored, and retrieved to match our corporate requirements but with respect to ECM we are, in most organizations, certainly in an advanced state, compared to where we were as recently as ten years ago. Today we no longer think of ECM as an elusive fancy. We know that ECM—or any effort approximating enterprise-wide content management—will strengthen organizational effectiveness.

What we have with ECM, of course, is but one element of the ever-expanding organizational attempt to “manage” knowledge, to get a handle on the information, knowledge, and strategic learning that is required for success in every organization, regardless of size and regardless of the subject focus or functional purpose of the organization. As with other activities associated with knowledge management (KM), identifying and planning strategy for success with ECM has moved high up the list of priorities for any person with management responsibility, whether for an entire enterprise or organization or for one of the functional units (“business units”) that make up the larger organization. ECM is now understood to be a central element of knowledge asset management, and the whole knowledge management and knowledge services “package” is now recognized as critical to organizational success.

As with all operational functions, knowledge management and knowledge services—including ECM—cannot contribute to organizational success unless high performance standards are achieved, an objective clearly linked to planning (and the impetus behind this management action plan). In the modern workplace, performance does not just “happen.” The very embodiment of performance in the workplace has to do with the planning process: determining expectations, the development of goals and objectives, the development of a framework for accomplishing those goals and objectives, and the implementation of strategies that define the framework. So it is with ECM: we must consider, we must discuss with colleagues what we are seeking to do, and we must carefully and thoughtfully give attention to what we want the enterprise content management role in the

organization to be. It is our expectation that the concepts and directions presented here, especially the discussion questions, will help each reader approach ECM with confidence.

Performance associated with knowledge management and knowledge services has a distinctive place in the management of the larger organization. Described in detail in the following pages, knowledge management and knowledge services come together as the operational basis for the growth of and on-going realization of the organization or enterprise as a *knowledge culture*. In supporting the knowledge culture, knowledge services is defined as the convergence of information management, knowledge management, and strategic learning. Its purpose is to enable better research and research asset management, strengthened contextual decision-making, and accelerated innovation. As a management and service delivery methodology, knowledge services is the foundation for knowledge development and knowledge sharing (KD/KS) in the larger organization. Used to provide the enterprise with a foundation for accomplishing mission-specific and mission-critical ends, knowledge services is today recognized as the *practical* side of KM, the management tool for *putting knowledge management to work*.

With this series of management action plans, our goal is to provide you with the tools you require for understanding, planning for, and managing knowledge management and knowledge services in your organization. Using this management action plan will enable you to develop a strategic framework for ECM within the knowledge services context.

No organization can succeed and grow until its organizational culture includes an understanding that success depends on the ability and willingness of all stakeholders to develop and share knowledge. The purpose of this Management Action Plan—and the others in the series—is to provide information professionals and other knowledge thought leaders practical advice for achieving that success. The authors' premise is that an organizational knowledge culture is essential for the achievement of the organizational mission, whatever that mission is or however it is expressed. With this plan, the goal is to develop a strategic framework for knowledge services, to ensure that knowledge services is managed as well as it can be managed in support of the knowledge culture.

For each subject presented in these Management Action Plans, we offer background about the subject in terms of its connection with knowledge services, a description of practices associated with the subject as it applies to knowledge services, discussions for identifying and codifying specific concepts, situations, and needs directly related to the reader's workplace, and a format for an action plan to be used to organize and frame specific activities to be undertaken by the knowledge services manager and staff. Three sections included in each of these

Management Action Plans do not vary much from plan to plan, as they apply to all of the subjects described: this introduction, the series introduction—which presents the reader with general background information about knowledge services—and the afterword, our comments and thoughts about the place of change and the role of change management in the modern knowledge-centric enterprise. Whether we are comfortable with admitting it or not, this last is the basis of our success in all we do in the workplace, and it is the authors' firm belief that attention to the principles of change management and change implementation is critical to the success of any undertaking having to do with knowledge services.

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HOW TO USE THIS MANAGEMENT ACTION PLAN

This document is designed in five parts: an essay about the background of knowledge services (to provide a context for ECM), an essay about ECM and concepts relating to the development of a strategic framework for ECM in the knowledge services context, discussion questions to enable you to capture and codify the required planning elements for your ECM strategic framework, an action plan format to give you a structure for designing your plan, and an essay about the role of change and change management in the process.

The steps for using this management action plan for developing a strategic framework for ECM are these:

1. Read the Series Introduction to determine if you are in agreement with the perspective or point of view described. The emphasis here is on the value knowledge services brings to the organization, the role of knowledge itself as an organizational asset, and the need for the development of a knowledge culture (if there is not one) or enhancement of an already existing knowledge culture in support of KD/KS in the larger organization
2. Thumb through the essay “Enterprise Content Management (ECM) for Knowledge Services” and identify sub-topics to focus on later
3. Review the Afterword (“Managing Strategic Change”) and think about how these change management concepts “fit” into the organizational culture where you are employed
4. With your colleagues, read over the discussion questions and come up with talking points to use as you develop your plan. Record your responses to the questions and meet together to brainstorm about how these apply in your workplace
5. Follow that activity with an in-depth review and discussion about the elements of developing a strategic framework for ECM
6. Return to the essay “Enterprise Content Management (ECM) for Knowledge Services” and read it with a view to learning concepts for developing a strategic framework for ECM in the knowledge services context
7. Using the action plan format included in this document, commit to the basic action items for implementing your plan
8. Initiate your plan for putting KM to work through an ECM strategic framework.

As with any management tool or technique, there are a variety of ways to implement the planning activity. Those presented here necessarily represent the experience of the authors, with emphasis in those areas given focus in their work. Other practitioners might weigh different topics or directions, but the final result, in all cases, should be a planning guide that will support the organization as it seeks to provide excellence in knowledge management and the delivery of knowledge services.

ENTERPRISE CONTENT MANAGEMENT (ECM) FOR KNOWLEDGE SERVICES

The management of information, knowledge, and strategic learning has been realized because of parallel developments in both technology and society, with each influencing the other.

In the 21st Century, the attributes of Alvin Toffler's famously predicted "Third Wave" have surely become as pervasive and influential as he anticipated in the 1980s. At this point in time, there is no question but that information management has rapidly developed from crude attempts to manage overwhelming amounts of data to an entire industry, with impact on nearly every individual on the planet, even to the genesis of something with even deeper impact, that of "knowledge cultures" in the organizations and businesses where knowledge workers are employed.

It has been an evolution in parallel, a simultaneous development of technology and philosophy, each influencing the other. Over and over, technology opens up new vistas of capability and then culture rushes in to react and exploit and mold the markets and uses for that very innovation. Electronically enhanced social networking didn't really boom until applications such as MySpace became pervasive in the Web 2.0 world; now these applications are essentially just "part of life" for many people, accessed and used without any particular attention to its existence as an application or tool.

While technology has been the more dramatic and visible element in this parallel development, moving from room-sized calculators to fully functional knowledge processors that can be carried on one's person, cultural and business process shifts have also played an important role, often driving the technology. Indeed, when we speak of the advantages of knowledge development and knowledge sharing (KD/KS), there is a growing realization in organizations that the messy process of sharing knowledge is more valuable than had been the neat, restricted, and "silo-ed" data repositories of yesterday. Thomas Stewart's prediction that "intellectual capital" is more important than efficient data management is now recognized in many organizations and called "knowledge management." Prusak and Davenport's characterization of managing knowledge as "working with" knowledge has opened enormous possibilities for strengthening Stewart's assertions about its value.

From its origins, the goal of knowledge management has been to enhance the understanding of how knowledge is used in the workplace.

As knowledge management (KM) began to be given attention, the concept was not initially well accepted or well defined. While information technology (IT) producers were beginning to develop knowledge sharing tools, organizations were wrestling with how the role of knowledge in the organization could be actually made practical, how knowledge could be "put to work" in order to realize the intuitive benefits of enhanced knowledge sharing. Just as Prusak and Davenport had recognized, the nebulous concept of "managing knowledge"—

* For an abbreviated history of KM and some approaches to the subject, see co-author Guy St. Clair's "Knowledge management" *Encyclopedia of Library and Information Science*, 2003.

when knowledge itself really cannot be managed—did not resonate with many leaders. For this and other reasons, KM was not connecting with the cultures it was intended to affect, with the result that enterprise leaders and senior management—the people in the organization with the power to control information investments—could not “get their arms around” the idea of “managing” knowledge.

Through the synergistic combination of strategies relating to information management, knowledge management, and strategic learning, organizations can use knowledge services for a single point of access to its information, knowledge, and learning infrastructure.

It was in this environment that the concept of “knowledge services” emerged. Converging the three existing disciplines of information management, knowledge management, and strategic learning, the idea has garnered recognition as a management concept offering a more practical and applicable model than any of the disciplines implemented alone. Through the synergistic combination of strategies relating to these disciplines, organizations can obtain a single point of access for the organization’s information, knowledge, and learning infrastructure, providing any number of tangible and measurable benefits.

Such activities naturally capture the attention of organizational leadership because they are efficient and have practical application. Some organizations even desire a change in culture, to one that values and uses shared information and knowledge. This has, in turn, driven a few to create actual organizational structures to support the concept and the possibility of creating a “knowledge culture,” supported by a “knowledge nexus.” It is a pattern that is now beginning to resonate among enterprise leaders.

Leaders in the knowledge-centric enterprise understand that KD/KS enables organizational stakeholders to leverage institutional knowledge for improved research and research asset management, for enhanced decision, and for accelerated innovation.

As it happens, this new emphasis on the role of knowledge in the operational environment has led to a different way of looking at the organization’s intellectual assets, its collective knowledge. KD/KS is now clearly desired and valued in organizations that are operationalizing the knowledge services concept. Leaders in organizations recognize that the *knowledge-centric* organization is one in which success at all levels is supported by a willingness to share information, knowledge and strategic learning developed within or for the organization. The ability to leverage institutional knowledge for improved research and research asset management, for enhanced decision-making, and for accelerated innovation is apparent, with the value proposition resulting from these critical organizational effectiveness factors providing tremendous opportunity for knowledge services leaders.

Technology, especially with IT facilitating access and the sharing of content, plays an essential role in the emerging knowledge-centric organization. Whether IT is a cause, an effect, or a parallel and mutually dependant development (a subject frequently debated) is essentially irrelevant. What is clear is that in order to address the many challenges of the information age, we cannot—and as leaders should not—ignore the continuing revolutionary and inevitable impact of IT in the workplace. To put it another way, there is great opportunity for the knowledge manager to enhance and to exploit IT solutions in pursuit

Just as with knowledge services the enterprise can put knowledge management to work, so with ECM the enterprise can put knowledge services to work. ECM—another way of saying knowledge asset management—links KD/KS strategy through the tools used by the organization’s knowledge workers.

of—and in alignment with—leadership’s desires for more knowledge-centric organizations.

So if knowledge services and the desire for a knowledge-centric culture provides the impetus and drive, and IT provides the technology, how does an enterprise actually put these disciplines to work? The answer for many organizations is Enterprise Content Management (ECM) and, for some organizations, an extension of ECM that has come to be known as Knowledge Asset Management.

After some evolution over the past ten years, it is now generally agreed that ECM/Knowledge Asset Management is a solution (actually a variety of IT-based solutions and applications) to a wide range of KD/KS issues and opportunities within nearly every type of enterprise. If knowledge services can be considered “putting KM to work,” then ECM can be considered, “Putting knowledge services to work,” placing tools and processes in the hands of knowledge workers to enable them to effectively manage information and knowledge (*i.e.*, content) and, as Knowledge Asset Management is integrated in to the management process, strategic learning as well.

In IT terminology, knowledge services is a framework that goes to work as a conceptual model, leading to the implementation of various business-level interventions or projects. ECM/Knowledge Asset Management goes to work at an applications level. Just as it is important to understand the concepts of knowledge services to develop a knowledge-centric strategy, it is equally essential that we understand the IT constructs of planning and implementation. This traditional IT framework is discussed below. For now, we simply note that in the knowledge-centric enterprise, understanding ECM and, as appropriate, Knowledge Asset Management provides a critical link between *strategy* (that is, KD/KS strategy) and its implementation through *tools* used on a day-to-day basis by individual participants.

ECM DEFINED

Enterprise Content Management (ECM) is an amalgamation of business strategies that comprises a number of IT solutions in the knowledge services realm. In all organizations, the goal of ECM is quite simple, the management of all structured and unstructured content (usually—but not always—digital content) across all constituent organizational elements of the enterprise.

As would be expected in a highly-charged and fluid environment, strict and stable definitions are difficult to find. We begin by discussing each of the component terms separately.

Content: Content is traditionally divided into two types: “structured” and “unstructured.” In seeking to define the two, the easiest route is simply to describe how they contrast. Structured content is generally

Enterprise Content Management amalgamates business strategies, including IT solutions, for strengthening knowledge management and knowledge services. The goal is to enable the management of all content across all organizations units, subunits,

accepted to be information or content that has been broken down or classified using metadata, arriving at a tagging or classification that describes the data elements. Its purpose is to ensure that the content can be reused and builds on structured content guidelines based, ideally, on how the content is to be used. Hopefully, structured content also ensures clear and consistent content materials. Ann Rockley offers a useful description of structured content:

Structured content adheres to principles of cognitive psychology and is based on how people read and comprehend information. Structured writing also assumes that “not all information is created equally.” In other words, information differs according to its type and should be consistently structured in a way best suited to its type. For example, a procedure is different than a process, or a concept, and should use a structure best suited to procedural information

Rockley also defines the structure of content, providing useful criteria for identifying whether content is structured or unstructured. These include recognizing that content is identified for different audiences, product lines, and platforms, understanding how content will be reused, and establishing whether the content is structured and how (by type, potential audience, *etc.*). An obvious but practical observation is that content is dependent on content standards and not format standards, a confusion that finds its way into ECM discussions more often than should be the case.

Unstructured content is the opposite, content that has not been classified and is not built on formal content standards. Most ECM systems and strategies would seem to concentrate on the more difficult “unstructured” type, leaving “structured data” to traditional database management systems. Some systems, however, attempt to integrate the two types, using defining metadata to “structure” unstructured content.

Designing a database for developing and capturing metadata for unstructured content elements moves the content’s designation from unstructured to structured.

For both structured and unstructured content, practical examples abound, with traditional document management, especially records and information management (RIM) as the best example for managing structured content. Unstructured content can obviously be just about anything, from an image such as a photograph or other picture, to a hand-written document or archive, to a list of personal passwords that the owner wants organized in some manner. Designing a database for developing and capturing metadata for these unstructured content elements moves the designation of the content from unstructured to structured.

Management: In IT terms, we speak of “management” to refer

to the manipulation of the content itself, as well as to designate the systems that help make the content useful and available. The Association for Image and Information Management (AIIM) includes four components as important for managing content: capturing, storing, preserving, and delivering. In planning an ECM strategic framework within the knowledge services context, the authors expand the last (“delivering”) to include knowledge sharing since, in our opinion, this management component brings so much value to the enterprise that it should be explicit in any knowledge services-related ECM definition.

In addition, there are various domains in which the actual management of content typically occurs, among which are knowledge management (KM), content management (both internal and external and as an official operational function), records and information management (RIM) or, as designated in some environments, document lifecycle management (DLM), Web content management, rich media and digital asset management, search, and collaboration.

Content management domains can include (but are not limited to) KM, CM, RIM, DLM, Web content management, rich media, digital asset management, search, and collaboration.

Enterprise: The term generally refers to the entire organization within which the content is intended to be shared. Since content (be it data, information, or knowledge) can only provide value when it is actually shared and used, the ideal and proposed scope of an ECM system would be as wide as possible, hopefully including the entire organization and occasionally even beyond the traditional boundaries associated with the organization.

Nevertheless, this “enterprise” portion of the term has become a point of contention among some experts. It seems that despite the visionary intentions of many organizational leaders, the knowledge thought leaders within the enterprise, and the software vendor/partners who work with them, actual enterprise-wide deployment of content management systems has been difficult. So difficult, in fact, it has recently led at least one respected practitioner and writer to characterize ECM as being “...at a critical turning point where it must prove itself or be lost altogether.” Another industry observer has even labeled ECM a “myth,” saying that attempting to implement enterprise-wide solutions is like “trying to boil the ocean.”

Does this mean that a well-intentioned ECM advocate should not attempt large scale or enterprise-wide ECM projects? No. It is entirely possible—and even recommended—that within a ready culture with good high-level sponsorship and other recognized and successful change implementation elements in place, an enterprise-wide ECM strategy can be developed, implemented, and succeed. Of course, it is also possible for a

large-scale strategy to begin its implementation small and grow from there, which in many cases is exactly what happens. In some environments, this approach is preferable and more in line with the organization's culture and positions the ECM strategic framework within the viable for that particular enterprise. Still, regardless of the ambitions of the organization's knowledge leaders or the size of the project once initiated, it is important to include an enterprise-wide vision and potential broad strategic framework from the outset, to enable the growth of the knowledge sharing benefits of the ECM.

Enterprise Content Management (ECM) is an organizational program which uses business processes and automated tools to assist the organization in capturing, storing, preserving, delivering, and sharing its knowledge, information, and

So given that there have actually been successful enterprise-wide initiatives, and given that there is value in visioning and planning for enterprise-wide implementation, we offer that the term "enterprise" remains in our vocabulary and represents, at minimum, a vision or an ideal to be eventually achieved.

Whether an organization decides to implement ECM enterprise-wide, all at once, in a single department or unit (or a group of departments or units), or incrementally depends on a number of factors which can be explored. All of them come together as we put the elements of these definitions together, as Lynn Blumenstein has done.

Focusing on the far-reaching and inclusive role that ECM can play in the organization, Blumenstein described ECM as "...a comprehensive information management and retrieval strategy that addresses internal documents and records, digital assets, and Web content." Noting that companies want more control over all their corporate information, Blumenstein describes how specialist librarians are leading the effort, providing companies with an ECM strategy "driven by a knowledge of business processes, metadata, taxonomy classification, and technology skills, all leading to the effective capture, retrieval, and repurposing of content."

To summarize, we offer this working definition of ECM: An organizational program which uses business processes and automated tools to assist the organization in capturing, storing, preserving, and delivering its knowledge and information.

ECM-PLUS: KNOWLEDGE ASSET MANAGEMENT

Yet more is needed in the knowledge services environment. While ECM as a practical management and service-delivery methodology has well-known applications and benefits, the company's knowledge services strategy requires that the elements of the knowledge services construct be incorporated into the enterprise content management picture. ECM helps us deal with the organization's internal content, the many documents, policies, procedures, and other materials generated and intended for internal use, a point supported by Jim Murphy when he

describes how the most successful and influential providers of enterprise content management are grouped around document management and Web content management. This management of internal content is the activity that most closely appropriates the second of the three component elements of knowledge services—knowledge management—and thus fits naturally into the knowledge services construct.

For dealing with external content, the management process must be expanded, and it is here that knowledge workers seek a broader framework, a step that takes them into information management, the first of the three elements that make up knowledge services. Likewise, if the management process is to be successful, giving attention to and connecting with knowledge sharing will be required. This productive step—which usually comes after the knowledge has been developed from whatever information- or data-gathering activity has taken place—is the basis of strategic learning, the third of the three component elements of knowledge services and the one that by definition matches that much sought-after KD/KS that drives the management of an organization or company’s intellectual capital.

**ECM → Knowledge
Asset Management**

Through

- Knowledge services audit
- Knowledge strategy development
- Change management and change implementation

To bring knowledge management and strategic learning into enterprise content management, we expand ECM into knowledge asset management, an approach to enterprise content that incorporates the knowledge services audit, knowledge strategy development, and (when required) restructuring and change management to ensure that the widest possible attention is given to identifying, managing, and utilizing enterprise content.

As a management methodology, knowledge asset management requires a slightly different assessment of organizational content and can be looked at from three different points of view, from what we might refer to as the functional focus, from an enterprise focus, and from the perspective of the knowledge worker. The functional focus identifies a knowledge asset as any collected information or knowledge held by the larger enterprise and used by anyone affiliated with the organization to help the organization achieve its goals. Often thought of as organized content to get something done, we might also think of a knowledge asset as anything we are able to refer to as we make decisions, attempt to accelerate innovation, and/or conduct research (recognizing that these results are already identified as the results of a successful knowledge services functional operation).

From the enterprise perspective, the knowledge asset is seen as any collected information or knowledge within the larger enterprise which can be used to help the organization achieve its goals, as with the functional focus. In this iteration, however, we recognize that all operational units create and retain knowledge assets and include in that recognition an understanding that, as an operational function, knowledge asset management strengthens all units and all departments

of the enterprise. Not surprisingly, the reasonable follow-on is the knowledge worker's definition of a knowledge asset, thinking of a knowledge asset as any information, knowledge, or strategic learning content saved in a form that makes it accessible and usable.

With little effort, we can establish that the significance of knowledge asset management emanates from the organization itself and in particular from the expectations of senior management with respect to organizational effectiveness. Not to put too fine a point on it, knowledge asset management is essential if employees are going to perform effectively and efficiently. Getting to that goal, though, requires that enterprise leaders evaluate their approaches to knowledge asset management and, where necessary, take steps to improve the management of the organization's intellectual capital. How a company or enterprise manages knowledge assets has significant operational impact, particularly in terms of labor (for example, the time employees spend looking for information they require for their work) and financial investment (the costs for developing or acquiring the knowledge resource that will contain the required information or knowledge base).

A first step recognizes that today's well-managed organization is by definition *knowledge-centric*. It is through knowledge development and knowledge sharing that the company is able to successfully achieve its business purpose, however that purpose has been defined. Whether the organization exists to provide a service to an identified population or to develop and manufacture a product marketed and sold for a profit, the accomplishment of the organization's business purpose is dependent on how well information and knowledge are managed and shared among all employees and others affiliated with the company.

Thus every company has by default a knowledge strategy, even if it is unacknowledged and simply built-in as part of the larger organizational business strategy. Ideally the company's knowledge strategy links to the larger organizational purpose and includes attention to the role and value of knowledge content, as well as emphasizing the enterprise-wide sharing of knowledge through collaboration. All of these knowledge strategy elements build on the recognition that the organization's intellectual capital is one of its most valuable assets and that the management of those assets contributes to organizational success.

WHY FOCUS ON KNOWLEDGE ASSET MANAGEMENT?

We recommend that in terms of its application for knowledge services ECM be expanded to incorporate attention to external content and strategic learning, and that this be accomplished through the integration of knowledge asset management into the ECM process. The viability of knowledge asset management is quickly established matches that of ECM: economic accountability, service delivery, and value all come together to support a robust ECM/knowledge asset management

initiative. In the well-managed enterprise, there is no room in organizational budgets for any process or activity that does not provide direct and verifiable return on investment. Determining ROI for the development, acquisition, and maintenance of knowledge assets is simply required in today's management picture, and there is no choice for knowledge services professionals with responsibility for the management and delivery of knowledge services but to do so.

Service delivery, too, is structured to match financial circumstances. Fortunately, for most people who need to "look something up" (as most people who use knowledge assets might be described), it is no longer particularly essential that another person—colleague or information professional—be brought into the process. For much of the information, knowledge, and strategic learning content required by workers, processes have been developed and total dependence on the interventions of others in fact-finding, researching legacy documents, and similar information-gathering activities are past. Contributing to this welcome scenario is technology, since today's technology offers vast opportunities for self-service and locating what the worker concludes is "good enough." Nevertheless, there are plenty of situations requiring intervention, and the role of the information or knowledge services professional continues to be naturally required in many situations, either for further guidance in refining the search or in seeking advice and consultation about the quality of the search results, and it is in this context that the connection with strategic learning in knowledge asset management is made.

From the larger enterprise perspective, there will be large numbers of parallel information- and knowledge-focused functions merging into a single functional business unit.

Connected to this new thinking about service delivery is considerable deliberation about the consolidation of related functions and functional units, with some organizational managers reviewing the contributions of each of the units that provide some information- or knowledge-focused service. From the larger organizational perspective, it is not unlikely that there will be opportunities for merging the operations of some of these units, with, for example, records and information management (RIM) combining with the organization's information center, or certain IT activities merging with some content-focused units (HR management systems with, say, a company's training and development unit). Indeed, such combinations can be expected to proliferate in the future, and fortunately technology solutions are available, requiring only that the managers in these areas recognize the advantages of cross-functional KD/KS and its implementation into the workplace areas for which they have management and service delivery responsibility.

In creating value from knowledge assets, knowledge services managers can give their attention to providing service delivery and operational support for what they have established as required and mission specific to the support and growth of the larger enterprise. Certainly such delineation has always been the theoretical management focus, but also included in good management has been the requirement to seek

innovation and “take chances” on unproven ideas and products. The respect for and pursuit of innovation is necessarily going to continue (indeed, one of the results of well-managed knowledge services is accelerated innovation), but movements in this direction will for the foreseeable future be subject to question and call for very serious justification before being approved for planning. Indeed, “nice to do” but not essential activities are going to be severely restrained, a state of affairs relating naturally to measurement and metrics and economic accountability as described above.

THE ECM/KNOWLEDGE ASSET MANAGEMENT PROCESS

The management focus for the knowledge services audit is detailed in *Conducting the Knowledge Services Audit: Identifying and Evaluating the Organization's Intellectual Assets* (SMR International Management Action Plan for Knowledge Services # 3)

ECM/knowledge asset management begins with the recognition that knowledge assets are in place, even if these assets are not clearly identified or ideally categorized. The next step, focusing on enterprise leadership’s responsibility to reduce costs and generate income, is to conduct a knowledge services audit. That activity will lead to planning for an enhanced knowledge strategy for the larger enterprise, directing the organization toward the development and continuation of a sustained knowledge culture. Built into the process is a final step, although it is one that in no way is expected to culminate or conclude and it will, in fact, lead to on-going and (hopefully) regularly scheduled oversight and monitoring. This is the move—following agreement on the recommendations of the strategic plan—toward implementing the recommendations and, if required, restructuring and the establishment of change management and change implementation procedures.

The knowledge services audit is a systematic examination and evaluation of the explicit and tacit (and occasionally cultural) knowledge assets in a company, organization, or enterprise. The audit investigates and analyzes the current knowledge culture and includes a diagnostic and predictive report about the organization’s “knowledge health,” establishing whether or not the organization’s knowledge value potential is being maximized.

For most organizations, the well-executed knowledge services audit is actually a description of the company’s intellectual infrastructure. When successful, the audit includes identifying and cataloging (and sometimes uncovering) existing knowledge assets, as well as specifying missing or underutilized components. Ideally, the audit focuses on both structured and unstructured content and gives attention to formal and informal communities of practice and other groups of knowledge workers whose work has drawn them together.

To ensure an inclusive and enterprise-wide knowledge services audit, two types of knowledge (as identified by Kenneth J. Hatten and

Stephen R. Rosenthal) are – or should be – sought in the workplace and addressed in the knowledge services audit:

knowledge required by employees, knowledge workers, and other stakeholders for strengthening performance when organizational objectives are known, acknowledged, and pursued

knowledge for helping innovative enterprise stakeholders define new objectives and the strategies to pursue them.

Managing the planning process for knowledge services strategy is described in *Planning Knowledge Strategy: Creating the Enterprise-Wide Knowledge Management Framework* (SMR International Management Action Plan for Knowledge Services # 4)

Once the audit is concluded, the knowledge asset management process moves forward, with the knowledge services management team planning enterprise knowledge strategy (or revising or enhancing a strategy already in place). Obviously strategic planning is not a recent addition to the knowledge services management toolbox, and information and knowledge services professionals long ago became expert in adapting techniques applied in the larger management environment to the management of knowledge services. And to prevent us from wandering too far afield as we ponder strategic planning and seek to focus on knowledge services, Shawn Callahan has described strategy (in any context) as a combination of actions intended to result in anticipated business outcomes and of actions that emerge as a result of the many complex activities that are undertaken with the organization, suggesting that both elements must be considered in planning knowledge strategy.

Knowledge Strategy

“...an organizational business strategy that incorporates attention to intellectual resources and capabilities.”
—Michael F. Zack

Knowledge services directors, already well versed in strategic planning, can link that expertise usefully with the best definition of knowledge strategy, that of Michael F. Zack. Zack describes knowledge strategy as an organizational business strategy that incorporates attention to intellectual resources and capabilities, emphasizing the critical connection between the organizational knowledge strategy and the organizational business strategy. Indeed, that connection must not be minimized, and particularly in terms of ECM/knowledge asset management the relationship between knowledge and business success (however defined) must be recognized. At its most fundamental level—with respect to planning knowledge strategy for the larger enterprise—strategy planning focuses on content and the KD/KS process, a planning effort involving consultation, negotiation, and analysis which is then used to support strategic decision making.

Thus the plan itself is not necessarily the primary objective in developing knowledge strategy, especially if the planning focus does not veer away from mission-specific content and KD/KS. As with all strategic planning, the goal is to use collaboration and sharing techniques to enable colleagues to come together to focus on how the enterprise, as a knowledge-centric organization, can develop a knowledge culture (or strengthen a knowledge culture that is in place).

The goal is to identify and implement tools, techniques, and processes for ensuring that the organization is positioned to take best advantage of its knowledge assets for the benefit of the larger enterprise. The strength of the process is that strategic planning brings together the best planning minds in the organization, detailing them to focus on the future and how the enterprise can be expected—using its knowledge assets—to function in that future.

Finally, the effort moves into change management, again a recognized methodology in the larger management community and one regularly appropriated in the management of knowledge services. Having developed an audit “package” listing collections and repositories or storehouses of the organization’s information and knowledge content (and in as much detail as the perimeters of the audit permit), and with the knowledge strategy in hand, recommendations for enterprise content management—incorporating knowledge asset management—can be implemented. Responsibility for this activity is usually assigned to a senior-level information or knowledge services professional—a knowledge services director, perhaps, or a CIO or CKO—who then puts together a knowledge strategy implementation team. Whether attempting to organize a full-scale enterprise-wide knowledge services restructuring or simply to focus on carefully chosen elements of a strategy already in place, the focus again will be on knowledge content and on establishing the highest levels of service delivery through an organizational and boundaryless KD/KS process. With a thorough understanding of the overall organizational culture, and of how stakeholders are likely to react to the changes for a new or enhanced knowledge strategy, the team moves forward to manage and implement a change framework that best serves the needs of the organization and matches its business goals.

THE ROLE OF THE INFORMATION/KNOWLEDGE PROFESSIONAL

This new knowledge services management arrangement is overseen by information and knowledge professionals employed to perform as knowledge thought leaders for the organization. As such, they are the ideal employees to engage in ECM/knowledge asset management. They know that it is their responsibility to match the management and delivery of knowledge services to the strategic goals of the organization and they understand that they are expected to assess service delivery and knowledge assets in order to ensure a successful match, a task they undertake on an on-going basis.

Today’s information and knowledge professionals also recognize that it is part of their job to guarantee that the knowledge services function is relevant and that their information management, knowledge management, and strategic learning responsibilities connect service delivery to the organizational mission. As knowledge thought leaders for their organizations, they understand their role to be that of

knowledge catalyst, embracing the now-accepted characterization of knowledge services as knowledge catalysis. With knowledge services, the process to identify, manage, and utilize the organization's intellectual infrastructure—its knowledge resources—enables the creation of knowledge value through KD/KS. It is a process that allows the information or knowledge professional to find and leverage otherwise inert opportunities to produce wholly new products and services, connecting the strategic role of knowledge services to its effectiveness in supporting mission-critical activities.

At the same time, in understanding and incorporating ECM/knowledge asset management into their work, information professionals are required to adopt an enterprise-wide perspective. While some of their effort (probably minimal in today's workplace) will give attention to acquiring and processing materials, that former emphasis is being primarily replaced by the role of the information or knowledge professional as a manager of knowledge assets. Working with the knowledge services staff, these knowledge professionals have access to a broad-based array of knowledge assets supporting a wide variety of workplace endeavors. Some in the field characterize this work as "taking ownership" of institutional or enterprise knowledge, to enable the provision of access to information, knowledge, and strategic learning across the organization. In this view, instead of asking knowledge workers in different departments to share the knowledge they develop or acquire, knowledge services staff manages all organizational information and knowledge (or as much as is feasible under agreed-upon parameters). Thus enterprise knowledge is inherently shared with those who need to have access to it and we have a situation in which the information, knowledge, and strategic learning management framework now includes integrated contact databases, organizational records, commercial databases, and other knowledge assets. When this happens, the much anticipated organizational knowledge nexus falls into place, with holdings that provide a rich picture of both what an organization knows today and what organizational staff need to learn for the future. With these robust knowledge assets managed by information and knowledge services professionals who understand the role of intellectual capital in organizational success, the larger enterprise ultimately survives and thrives.

PLANNING A STRATEGIC FRAMEWORK FOR ECM/KNOWLEDGE ASSET MANAGEMENT

This document has a specific purpose, to assist information professionals and knowledge thought leaders as they seek to enhance (or create) a corporate culture supporting knowledge development and knowledge sharing (KD/KS) for the larger enterprise. It is the authors' premise that an organizational knowledge culture is essential for the achievement of the organizational mission, whatever that mission is or however it is expressed.

KD/KS succeeds when all affiliated persons and organizations are able to find, create, and share the information, knowledge, and strategic learning required for their work. To do that, an enterprise-wide tool or collection of tools, behaviors, and other vehicles for KD/KS is critical. And with that statement there is an obvious caveat: even if an enterprise content management (ECM) application is utilized only locally, the concept of ECM/knowledge asset management as a universal goal strongly affects the organization's success.

So the motivation for planning a strategic framework for ECM in the knowledge services context seems clear, but it must be acknowledged that all industry leaders are not in agreement. Nav Chakravarti, writing in *KMWorld*, makes the case that content management systems (what we might refer to as "ECM" but which he, like many in the industry, refers to as "CMS") were "not designed for knowledge management and because of several gaps in product capabilities, many organizations are failing in their efforts to foster greater collaboration."

Among the differences or, as Chakravarti puts it, "elements of KM vs. CM," Chakravarti identifies the fact that "daily life depends on granular snippets of knowledge" and content management (CM) is generally designed to manage information that is typically not granular in nature. He also notes that "people don't and won't take the time to document what they know." In order to capture this tacit information, Chakravarti asserts, knowledge capture must be easy and it must be done as part of the work process and "not as a separate document or content publishing task that an employee might engage in one day."

The most important difference between CMS and knowledge management and knowledge services has to do with measurement, and Chakravarti's comments are worth quoting in full:

The ability to holistically monitor and measure critical elements of the entire workflow process is a fundamental difference between KMS and CMS. Following are some of the core elements to measure:

- *Capture effectiveness.* Tracking contributions of authors, and the value of those contributions for rewards and recognition is critical, so that authors have an incentive to divulge the tacit knowledge in their heads and take the time and effort to document it. This also helps discourage information hoarding since, in the old model, information is power. Given that there is widespread authorship, it becomes critical to distinguish the more expert authors from the beginners. This is especially true in self-publishing environments such as blogs and forums.
- *Route efficiencies.* In the route process it becomes critical to measure time in the workflow and identify approval bottlenecks. Given that knowledge has a shelf-life, it also becomes critical to measure the speed of knowledge updates and ensure timely flow.

- *Conversion success.* In the convert process, the whole objective is to drive the user to the best solution for his or her needs. This is only possible by providing ways to capture feedback from users and customers, such as ratings and comments, discussion on content, or surveys. Further, document ratings need to be captured, and automated review tasks need to be initiated for documents that receive poor ratings.

With Chakravarti’s guidance at hand, the question for managers seeking to develop a strategic framework for ECM becomes one of making it easy for the user to find the required information, knowledge, or strategic learning content and to differentiate “content-driven websites from conversion-focused, knowledge-based Web applications.”

Certainly the subject of how well content is managed is being given attention. Mary Lee Kennedy and Angela Abell (in a paper excerpted from *Intranets for Info Pros* by Kennedy and Jane Dysart) write about the changing roles of the information professional and give very strong advice about how those roles—if incumbent information professionals are willing—can drive the knowledge management and knowledge services process in the larger organization. But first, they note, there are challenges, including the “major” challenge of managing growing volumes of content. “As more decentralized behavior emerges on intranets,” Kennedy and Abell write, “infrastructure (*i.e.*, team spaces and project collaboration spaces) and the amount of duplication and redundant content will grow exponentially.”

The knowledge or information professional is uniquely positioned to link the organization’s knowledge services requirements with the larger enterprise focus, and to show how knowledge services yields results.

Kennedy and Abell suggest that avoiding these pitfalls is going to be difficult, and solutions, including ECM/knowledge asset management, will necessarily be “largely driven by a perceived recognition of their immediate value.” They agree that there will continue to be much attention to technology solutions that (as they quote Andrew McAfee’s suggestion) “make visible the practices and outputs of knowledge workers.” It is here, it seems, that the influential role of the organization’s information professionals and knowledge thought leaders must be brought into play, for “the biggest challenges” are going to continue to be the same challenges information professionals have long dealt with “for as long as there have been networked information processes,” recognizing

1. that knowledge workers won’t use them because they simply do not help them do their jobs
2. that early adoption is by information professionals themselves who may taint adoption through their own bias
3. that managers will not support knowledge workers in providing the time or motivation to use them
4. that interfaces are cumbersome and disconnected
5. that the intranet platform may not lead to the behavior management wants and that the natural reaction is to shut it down.

An organizational knowledge culture supports and rewards high levels of knowledge sharing and seeks to strengthen ties between technology and knowledge

The roles of the information professionals thus relate to an important enterprise-wide function which establishes a valuable relationship in the development of a strategic framework for ECM. Kennedy and Abell recommend six “clusters of responsibilities” for information professionals and knowledge thought leaders, each with an important function in ECM and establishing work that needs to be done. Kennedy and Abell’s clusters are:

Knowledge services enables excellence in knowledge asset management, which in turn improves research, enhances decision-making, and accelerates innovation.

- information strategy
- enterprise information architecture
- information governance
- content creation and acquisition
- communication and publication
- information exploitation and use.

Thus the running theme throughout both of these resources is that companies and organizations must focus on business needs as the ECM/knowledge asset management strategic framework moves forward. It is a point of view with which Janice Anderson would agree. In her work, Anderson has long made the connection between records and information management (RIM) and KM/knowledge services. In her article on best practices in the RIM environment, she connects ECM and RIM with logical and practical steps. Describing the value of combining RIM and ECM, Anderson writes that in the present organizational environment, “companies that are identifying their business requirements and organizing their information are several steps ahead of their peers” (Anderson, 2008). Anderson’s recommended first steps are:

Every organization can benefit from the existence of a knowledge nexus, where responsibility for knowledge management and knowledge services is centered. The wise knowledge or information professional seeks to be an integral part of that

- assess the needs of the organization
- develop policies and procedures for managing information
- define and document business practices
- discover information being created and received within the organization
- create and populate information management tools.

Offering “three things to remember as you consider an ECM system implementation,” Anderson advises managers with knowledge services responsibility to note that:

1. buying and implementing an ECM system does not guarantee compliance or adherence to best practice
2. all ECM systems require a significant up-front investment of time, effort, and money, and
3. well-designed and deployed ECM systems are worth the effort and provide significant return on investment.

Anderson concludes with six “tips” for implementing an “ECM system that will endure”:

1. identify the right team for ECM product selection, implementation, and maintenance
2. prepare for the complexity of implementing an ECM system with your taxonomy, file plans, and retention schedules
3. choose an ECM system that will allow you to be flexible
4. develop an implementation plan that will allow you to prioritize according to highest risk/need
5. create policies and procedures for your ECM system based on the RIM policies and procedures that you have already developed
6. address organizational change and communication within your design/build process.

While some might disagree with Anderson's implementation tip relating to creating policies and procedures based on RIM policies and procedures, such distinctions would typically spring up in environments in which the holistic approach to knowledge management and knowledge services is not yet instilled as an organizational characteristic. Regardless of the model chosen (after all, we all have to start somewhere, and alluding to a previous model is generally much more palatable—and more likely to result in an achievable plan—than starting with a totally new pattern), the purpose is, as Anderson puts it, “to incorporate industry best practices for search and retrieval and lifecycle management as reflected in an ideal program.”

With this guidance and now with an understanding of ECM/knowledge asset management and its place in the organization, we can turn to examples of how ECM is actually implemented and demonstrate how ECM planning helps to put knowledge services to work. We begin by thinking about two approaches. We call them best practices, and we recommend a focus on using ECM as a business process improvement and integration method, and using a portfolio approach to content offered as a service (searchable databases).

Best Practice (1): Use ECM as a business process improvement and integration method. We make two points about this:

1. When possible, incorporate business process reengineering (BPR) into your ECM program. BPR involves (usually) first mapping the existing processes and then re-designing the processes and procedures to better match the business need and, concurrently, to achieve increased efficiencies. In general, the planning and implementation of any automated system should include, at minimum, an evaluation of the business processes involved.

When we seek to bring ECM into the knowledge services context, we examine how both structured and unstructured content is dispersed across different repositories, how the information, knowledge, and learning content is used as it is dispensed from

ECM in the knowledge services context examines both structured and unstructured content and how information, knowledge, and learning content is used as it is dispensed from those repositories.

those repositories, and the effectiveness of the system in delivering content, particularly in terms of workflow and operational function. It is senseless to implement an automated system intended to facilitate or speed an inadequate, out-dated, or otherwise irrelevant set of work processes. Implementing such a system would, at best, merely speed up the wrong activities! An ideal plan begins with a review of the existing processes (the formal methods) and human behaviors (informal ways of getting work done). We then engage the people actually doing the work and come up with a “desired state,” a better business process including attention to workflow and roles. With these steps, the design and workflow of the new ECM system will best match the purposes and goals of the enterprise.

The following example describes how one organization matched BPR utilization with its ECM goals. A large pharmaceutical company had a manual process for obtaining approvals for external scientific publications. The existing process had been in existence for many years through a time of tremendous growth. The old system required many levels of approvals, such as the entire reporting chain from scientist to President of Research. In addition, it required approvals from the chief patent legal council, copyright agreement clearances from the library function, and even a reprints ordering feature. When the company’s research function consisted of 2,000 scientists, the manual system (hardcopy sent via inter-office mail) worked fine, but when the research division ballooned to nearly 12,000 and included six major sites on four continents, there was an obvious need for a viable ECM system.

In consultation with stakeholders and the executive sponsor of the project, process maps were created for the existing and desired states during the planning stages. It was quickly determined that the chain of approvals should be shortened and made more flexible according to location. Reprints ordering was also eliminated, and the process would now include a local legal sign-offs responsibility instead of referring to the US-based chief patent counsel. In addition, it became obvious that there were multiple chains of approval and if electronic copies of the articles were routed and tracked, the chains (such as reporting-chain, library, and legal) could be done in parallel.

Some experts in the field contend that the BPR approach is outdated, that initiatives should be aligned with the existing informal channels and agreements since this is where “real” knowledge interchange occurs. Despite these differences in opinion, the BPR approach continues to be valid and effective, as can be seen in this example (which addresses Chakravarti’s reference to route efficiencies in the measurement process.

In addressing the dilemma of where the knowledge interchange occurs, we recommend that information professionals and

The “embedded” or “insourced” knowledge or information professional is a member of the team, works with team members at all levels, ensures that information is shared, uses best practices for managing information, and aids in the transition of information to knowledge

The enhancement of institutional success necessitates the careful management of both structured and unstructured knowledge. Together these form an essential organizational asset.

knowledge managers learn about and pick whichever business processes (formal, informal, or combined) that seem have the most uptake and participation in your own organization. Then learn as much as you can about this social-process construct and design your ECM system and implementation accordingly. Experience has shown that most successful implementations take into account both formal work processes (which set the context, timing and rationale for knowledge transfer) and flexible, incentivized, “volunteer-based” information sharing opportunities. Whatever the approach (or terminology used to describe it), the human element cannot be ignored. We now recognize that KD/KS cannot be forced and can only exist in a culture in which people *desire* to share the knowledge they develop. As the information professional’s role has expanded to include skills, attitudes, and values relating to partnerships and alliances, mutual respect and trust, and communications, that role also now requires leadership strengths for influencing colleagues to *want* to share what they know.

2. Our second point has to do with the scope of the ECM effort. If the project has wide scope and might be considered more fully “enterprise” in the ambitions of organizational leaders, it will overlay so many work functions and processes that it would be impossible to re-engineer in either manner described above. Our recommendation here is to, at minimum, inventory the various roles played by departments (or individuals, in small organizations) by conducting a thorough knowledge audit which would likely involve representatives from the various roles in the inventory process—that is, stakeholders in the ECM process—and to have them provide advice and guidance from their specific perspective to the project team early on in the planning. This practice serves two purposes, to identify hurdles or pitfalls in the planning that can be headed off in the planning phase (as opposed to taking this step during the executing phase when changes are much more difficult to incorporate), and to engage a population of potential users (and hopefully “change agents” or “champions”). This latter is extremely important to your ECM strategic framework development project because even the best system will fail (and many do) if the individual users are not engaged or motivated to change their behaviors by using your new ECM system, as noted in an example from the life insurance industry. In this example, a company was experiencing “astronomical growth” in new policy applications. The company decided to design an ECM system aligned with a corporate strategy to manage the growth while improving customer service. After reviewing their organizational structure from a functional standpoint, management decided that an automated system of routing, retrieval, and storage of applications would reduce processing time of policy applications without having to increase headcount.

As a result of surveying the roles, functions, and workflow of the involved departments and involving representatives from all levels,

the company decided to create a new department called the “Digital Mailroom” which was implemented in conjunction with an ECM/workflow system. The new system has been well-accepted and realized impressive productivity and improved customer care. The company states that “process transparency” and “workload redistribution” capabilities have been critical success factors.

Best Practice (2): Use a portfolio approach to enterprise content management, with searchable databases to include the following:

- subscription databases (external)
- operational databases (internal)
- historical/archival
- info-bases (unstructured text-based) *e.g.*, help desks

Some types of content are necessarily presented as large databases (variously called “databases”, “info-bases”, “knowledge bases”, etc.) that contain information for to a wide audience and for a variety of needs. Many times, this type of content is presented as a service, usually in the form of a searchable database. The content is searched on demand (usually by the end-user or sometimes by an intermediary expert searcher) and applied by the user to fulfill business needs for research, decision-making, or pursuing innovation. The content may be externally generated and purchased or licensed or it may be compiled and maintained within the enterprise.

There are multiple challenges with these types of content and the business model, including the constant need to match the database’s content with the user’s needs. Many times, especially with external purchased content, there are competing resources, differing interfaces, changing needs, needs for training and expert evaluation, and the like. Many time this calls for an expert librarian or knowledge content manager to help the enterprise select, deploy, train for, and monitor these resources. Other management functions may include vendor relations, negotiation, contract management, and licensing maintenance.

A best practice for deploying this sort of content is to manage it as a portfolio of resources, periodically reviewing the entire portfolio (or sub-portfolios in large enterprises) with respect to business needs, value produced, and associated management functions. Managing the portfolio begins with identifying the elements of the portfolio, creating a catalog or inventory of the organization’s various information, knowledge, and strategic learning content resources.

In most situations, this step too is part of the knowledge services audit, reviewing resources of all three knowledge services disciplines (and is not limited to those typically thought of as knowledge resources). The purpose is to identify the various knowledge assets in the larger organization since, as noted in the earlier description of the various ECM domains, there can be a large contingent of “items” in the ECM portfolio.

The portfolio approach builds on the knowledge audit, identifying various knowledge assets and combining processes, people, and technology for strengthened research asset management.

Thus the portfolio's purpose is to bring together all the elements of what, in Mary Ann North's description, she calls "research asset management," the "combination of processes, people, and technology for managing information assets at all levels." By slightly altering her term and thinking of the process as looking at the organization's *knowledge* assets, those with research asset management responsibility now have an across-the-board (and as complete as possible) register of the different types of tools enterprise stakeholders utilize for KD/KS.

It is in developing the portfolio—beginning with an list of its constituent parts—that the strength of the portfolio approach comes into play. With an inventory of knowledge assets in place, knowledge asset management has a place to start. Without it, both management and staff are left to wonder what the specifics of KM/knowledge management are, or might be.

A good example of the portfolio approach took place in a medium-size research and service-delivery organization in which senior leadership had identified the need for an integrated information/knowledge/strategic learning management system. Management expectations were that the system would not be limited to the management of information but would also incorporate captured knowledge ("intellectual capital") and strategic learning content.

The stated vision and purpose of the system was chosen: to provide a unified format for access to corporate information, knowledge, and strategic learning content, in order to enable company stakeholders to make better business decisions.

Following a knowledge services audit in which the ECM Planning Task Force compiled—to its and management's satisfaction—a comprehensive list of resources, each was analyzed for its contribution to the corporate business purpose. As the list included both formal knowledge repositories and informal arrangements (communities of practice, social network tools, committees, groups, and other knowledge-sharing elements), the knowledge audit required a large outlay of resources but the commitment was offset by the recognition by all task force members—and corporate leadership—that the directory of resources would provide critical content for building the ECM strategic framework.

The next step was to evaluate each content repository and/or element according to the following criteria:

1. Capacity to perform as part of an integrated process and operating system (*i.e.*, does the repository "fit" as part of a "one-stop shop" or portal?)
2. Level of tactical vs. strategic content
3. Linkage to users, with specific reference to how users actually (and easily) access resources, how the accessed content is used, and how that usage matches the organization's strategic

purpose

4. User acceptance, ease of use, and speed of response
5. Ability to bring together data from disparate sources (both formal and informal)
6. Integrated report tools, required for summary and analysis

When the ECM Planning Task Force delivered its implementation plan, it described the company as positioned to move to a strong ECM system and recommendations were made to take the plan forward.

Two critical elements in the success of the program were, first, a recommendation for a senior management employee to join the task force as an “interested” party. A second critical element was the recommendation for an all-hands learning initiative, to set up an enterprise-wide learning program emphasizing the overall benefits (both individual and corporate) of the ECM plan with—and important consideration—change management principles incorporated into the learning program.

After a first year of planning and a second year of implementing the first stages of the program, the chosen ECM system was in place and staff throughout the enterprise took pride in the “forward-thinking” efforts of all company stakeholders. Commitment and participation issues were taken seriously by all concerned, and the voices of apprehensive employees were heard, resulting in a environment of strengthened community and sharing.

A CLOSER LOOK AT ECM DOMAINS

As described earlier, enterprise content management (ECM) is an amalgamation of different domains. As information professionals with management responsibility for content management assess the organization’s KD/KS needs, it is important to consider these domain aspects of ECM and consider their applicability in the workplace:

- *Knowledge Management:* While KM as a practice has been around since humans could communicate, the genesis of the discipline as a management methodology is generally attributed to Thomas Stewart and his work on the subject of intellectual capital beginning about twenty years ago (Stewart, 1991). It was when Stewart was able to identify and connect intangibles such as the knowledge contained in the talent of people, in patents and trademarks, know-how, customer loyalty, etc. that the business world began to pay attention to organizational intellectual capital and knowledge. The mapping and tapping of this knowledge defines the discipline and the general management community is on its way to recognizing KM as a practical and valuable management discipline.
- *Content Management:* This domain can include either internally generated or externally purchased content or both. Functional

groups in charge of both types are rare, but when an organizational structure includes both, and they work together, these business functions create significantly added value for the enterprise. By connecting “what the enterprise knows” with “what the world knows” on a subject from the same place and time to a decision-maker, innovator, inventor, or other product/service developer can by definition create enhanced strategic value.

- *Records Management (Document Lifecycle Management)*: The world of Enron scandals, Sarbanes-Oxley, US Code of Federal Regulations 21CFR, Part 11, and the relentless pursuit of corporate litigation has made organizations acutely aware of the need for good records management practices. Physical records may be sorted into types, each with rules as to retention schedules, archiving, and access. For obvious business reasons—and in their own defense—enterprise leaders now require the same of electronic records (especially e-mail). This new awareness now brings considerable attention to the value of organized and retrievable information.
- *Web Content Management*: In today’s organizations every function or department wants a web presence. Human Resources wants to advertise job vacancies, Investor Relations wants to attract and inform investors, sales wants products advertised, and the organization’s fund-raising or revenue development function wants its activities widely known. Complicating the picture, global companies may want the same information in different languages, and the time-sensitive nature of much information also plays a role in determining the extent to which web content is brought into the ECM structure. All of these requirements can overwhelm a dedicated webmaster, and the solution is to make ECM tools available to content owners who can manage it themselves (at the same time, of course, providing the strategic learning framework that will enable them to do so).
- *Rich Media and Digital Asset Management*: High speed Internet connections, wide-bandwidth networks, and fast personal computers are now taking content management far beyond text. Since these types of content can be expensive to put together, there can be huge cost drivers to create ECM or DAM (“Digital Asset Management”) systems that enable re-use and lifecycle management of information in this domain.

A CLOSER LOOK AT APPLICATIONS

Applications are the software programs—the actual “tools”—used to manage the capture, storing, preserving, and delivery of content. In the present ECM environment, several are being given attention:

- *SharePoint*: A web-based collaboration and document management system from Microsoft. This is actually a “family” of two products and their associated applications, the Windows SharePoint Services (WSS) and Microsoft Office SharePoint Server (MOSS). These products can be used to host websites that access shared workspaces and documents, with wikis and blogs also hosted from a browser. Recognized as a major driver in the recent transformation of ECM in the marketplace, SharePoint has been characterized as “...bringing content management to the masses.”
- *FileNet*: IBM’s acquisition of this company and its flagship product has made IBM one of the largest and most competent suppliers of ECM solutions. With the largest market share for ECM and one of the broadest implementation bases, IBM is now a popular vendor for large ECM installations.
- *Open Text*: This Canadian firm produces and distributes ECM solutions aimed at large corporate installations and is considered to be the industry’s largest “pure-play” ECM vendor. Open Text acquired Hummingbird in 2006, giving the company the opportunity to dominate the legal market. Open Text has a strong portfolio of ECM products and has also developed business relationships with infrastructure vendors as well, like Microsoft and IBM. Open Text also has a co-marketing deal with SAP whereby SAP resells Open Text’s archiving and records management products.
- *Oracle*: Oracle is the third (IBM and SAP are the others) platform-based ECM vendors. If organizations have standardized an Oracle-based environment in which many of an enterprise’s databases are managed, Oracle can provide ECM capabilities to run on top of this platform. Oracle’s acquisition of Stellent’s “Universal Content Management” (now called “Oracle UCM”) is considered by Gartner to be a “mature, well-integrated product suite,” that works well in the Oracle environment. Whether support for Oracle UCM on other platforms such as SAP seems to be in question.
- *SAP*: SAP was a pioneer in the enterprise resource planning (ERP) field and has become the world’s largest software company. SAP’s platform supports a number of important business functions such as customer relationship management (CRM) and supply chain management (SRM). This broad functionality plus its inherent 3-tier architecture makes it a major platform player in the ECM marketplace. As mentioned above, a common implementation in a “SAP shop” would be Open Text’s records management and archiving applications.
- *Vignette*: Vignette has been a strong player in the web-content arena, linking ECM functionality to portal, collaboration, documentation management, and records management applications

or functionality. Many of the world's most complex and famous websites run on Vignette, including Time-Warner, Fox News, and the Athens 2004 Olympic games. Vignette's proven scalability and high-volume capabilities do, however, make for a complex back-end interface and not-so-user-friendly template. As a result, Vignette is experiencing significant competition from SharePoint and the larger platform vendors.

For further information with respect to applications, there are many lists of vendors available. A broad list of applications is provided by [The Rockley Group](#). In the company's compilation of products and vendors, several technology areas, including authoring systems, content management systems, workflow systems, delivery systems, and global management systems, are identified and described.

PUTTING IT ALL TOGETHER (ENTERPRISE ARCHITECTURE AND CHANGE MANAGEMENT)

No matter which domain, technology, applications, or business processes are involved, every successful implementation needs to be tightly linked to the larger organization's strategies and culture. If we fail to make this a strong and early connection, our efforts will not succeed, and large commitments of resources will have wasted. To avoid this scenario, we recommend making use of two disciplines:

- An Enterprise Architecture framework for linking ECM to strategy, planning, and communications
- Change Management principles to ensure that the ECM solution connects with the organizational culture and to ensure the highest likelihood for user uptake of resources and work behaviors required by the new systems.

Enterprise Architecture: The IT world has long recognized that even the best implementation of the best software is a huge waste of resources unless there is a robust and logical rationale between chosen IT solutions and business strategy. In enterprises in which multiple software platforms, strategies, and user-bases occur, making this connection requires constant and significant effort. In support of this, most large organizations create a logical construct called an "enterprise architecture." Indeed, many larger organizations employ "enterprise architects" whose role it is to design and constantly monitor these activities.

The purpose of enterprise architecture is to align IT investments with business strategy, particularly in terms of standardization and governance and to ensure long-term support for business strategy. In practice, this enterprise-wide framework has evolved to include a host of activities designed to understand, justify, optimize, and communicate the linkages between the various applications and business strategy.

Many of these activities connect, quite naturally, with the various “levels” make up the general structure of the enterprise architecture concept. As such, these levels (sometimes also referred to as “layers”) provide the knowledge services director with terminology and practical concepts for use in working with IT professionals, a point worth remembering since the specialist language of IT professionals and that of knowledge services professionals is often not the same. Thus understanding and being able to incorporate some of the ideas of enterprise architecture provides knowledge professionals with the opportunity to “speak the language” of IT as they seek to describe the needs that they have identified for strengthening the KD/KS process.

These “levels” of enterprise architecture first came to the attention of the information community in the work of John Zachman, first described in a 1987 paper published by IBM. Called “categories” in Zachman’s work (now referred to as “the Zachman Framework”, these descriptions have been much written about and discussed in the IT community since 1987 and provide convenient points of reference for the knowledge services director. Generally speaking, the levels of enterprise architecture are thought of as

- Business processes and activities
- Applications (such as custom or off-the-shelf software tools)
- Data that must be collected, organized, safeguarded, and distributed
- Technology such as computer system and telephone networks

In thinking about these levels as they apply to planning ECM for knowledge services, the knowledge services director is thus able to link KD/KS strategy with the information- and knowledge-seeking efforts of organizational employees. As this process moves forward, we strongly recommend consulting the organization’s enterprise architecture (and “architects,” if there are employees in the organization with these responsibilities) during the planning and design of any ECM effort. Doing so will accomplish at least three very important goals:

- Provide an outline of the entire effort and allow the important analysis and discussion of the linkages between content and technology. This is the optimum path to a solid technical and business justification of investments in ECM programs.
- Provide a communications platform for essential and efficient discussion between the business owners (sometimes called “initiators” or “advocates”) and IT and the business strategy. If the leaders of the ECM initiative are not in IT, credibility can be enhanced or maintained by the use of this standard strategy method and language.
- Set the stage for additional planning and implementation. More time spent on a solid architecture early on will result in more efficient implementation and ensure the adoption and carrying out of change management practices later on.

Basically, the creation and organization of an enterprise architecture begins with documenting the organization's strategy and high-level operating model. It then becomes more and more tactical and detailed, describing which applications (the computer programs and interfaces) support the strategy and operations. Enterprise architecture then moves to descriptions of the actual data and information used by the applications, and finally describes the underlying technology or infrastructure needed to support the other elements.

Typical elements supporting this structure include those for both business management and for information management. For the former—managing the business—these include:

- Strategy maps, goals, corporate policies, Operating Model
- Functional decompositions (*e.g.* ways of expressing inputs, processes, and outputs or flowchart models), capabilities and organizational models
- Business processes
- Organization cycles, periods and timing
- Suppliers of hardware, software, and services
- Applications:
 - Application software inventories and diagrams
 - Interfaces between applications—that is: events, messages and data flows
- Intranet, Extranet, Internet, e-Commerce, EDI links with parties within and outside of the organization

For the latter—dealing with the management of the organization's information, knowledge, and strategic learning content—attention is given to

- Metadata
- Data models: conceptual, logical, and physical
- Technology:
 - Hardware, platforms, and hosting: servers, and where they are kept
 - Local and wide area networks, Internet connectivity diagrams
 - Operating System
 - Infrastructure software: Application servers, DBMS
 - Programming Languages, etc.

We recommend that in the development of any proposals for an ECM solution, an investigation of prior work done with respect to enterprise architecture should be considered. Once these have been given attention, proposals for an ECM solution should address how and where the integration of the architecture with the needs of the content by end-users will occur.

**The Successful
Knowledge Services
Transformation Effort:**

- Leadership
- Knowledge Services
Vision, Mission, and
Values Statements
- Knowledge Asset
Management
Responsibility and
Service Delivery
- Sponsorship, Marketing,
Awareness-raising,
and Advocacy
- Change Management
and Change
Implementation

Change Management: Also referred to as “organizational change management” or “human change management,” change management is generally described as a set of principles that take into account the human element of any implementation or organizational change. Even the best conceived goals, the best designed processes, greatest software and most detailed planning will fail if change management principles are ignored. As these principles are given detailed attention in the “Afterword” for each of the documents of this series of management action plans, it is only necessary at this point to describe some of the principles of change management as they relate to planning the strategic framework for ECM. In addition, we highlight a few of the critical junctures within a project’s lifecycle where change management may be effectively applied.

Probably the most effective change management principle that can be put to work in planning a strategic framework for ECM is sponsorship. For the effort to succeed and contribute to organizational effectiveness, it is critical that those initiating (or assigned) the responsibility identify an influential leader who will agree to express, model and reinforce the use of the new ECM application or the changed behaviors that will result.

Related, of course, is the principle in which champions and change agents are enjoined to help influence the change and the move to a new ECM system. These champions and change agents are influential people who can speak about the benefits of the new program and encourage uptake and usage. Champions are good for speaking as early-adopter users who have seen and realized improved performance from the benefits of the change, and change agents are simply individuals who have been identified and indoctrinated to express and model the new behaviors to a population of users.

A similar consideration has to do with targeting readiness and surfacing resistance. Realizing that everyone goes through a drop in productivity and may even resist the changeover to a new or different way of managing work-related activities, this change management principle can prepare managers for handling situations that, while not inevitable, come up frequently enough in the change implementation process to inhibit progress. Engaging users early on and taking the time to look for and address resistance will help individuals (and organizations) go through the change curve faster and with considerably less anxiety for all stakeholders.

Importantly, all of the above have to do with communications, and the development of an effective and comprehensive plan for communications that engages users at the outset and recognizes these elements in a coordinated and consistent manner is recommended. At its simplest level, a calendar of expected events/milestones or a project plan that incorporates elements of a consistent “message” accommodating the audience and using appropriate organization media

will be effective and lead to wider acceptance for and implementation of the ECM strategic framework.

As knowledge management has matured and as knowledge services as a management and services delivery methodology has emerged, the demand for knowledge development and knowledge sharing (KD/KS) programs and activities has also matured and grown. This is not due solely to an academic or theoretical re-conceptualization of the KM models (although that, no doubt, has happened as well). Organizations have begun to realize that enhancing KD/KS has strategic and operational value, and opportunities for organizational impact come to light when one examines some of the causes of this shift in thinking:

- The demand for knowledge sharing, especially tacit knowledge has increased. Globalization of nearly every industry on earth has created competition for resources (human, capital, energy, etc.) The demand for “how to” knowledge, for knowledge that enables faster innovation, faster processes, faster decision-making and higher quality products at a lower cost has experienced a commensurate increase.
- The urgency to do something about the much-talked about information overload. The concept of information overload is an established reality, not an imagined difficulty of a whining population. The exponential increase of e-mail alone has reached a breaking point for many workers, particularly knowledge workers, and when e-mail is matched to the billions of added web pages and the demand for faster and more informed decisions that knowledge workers are expected to handle, it is no surprise that the term “overload” is invoked. Some organizations are recognizing that the situation is not merely an individual productivity or effectiveness issue and are seriously interested in identifying and implementing coping mechanisms.
- Concerns about “Baby Boomer” retirements and a more transient workforce. According to some experts, workers born between 1946 and 1964 are expected to retire at the rate of one worker every 15 minutes in the immediate future. At the same time, among the many people entering the workforce and new to the workplace experience, many have less resistance to moving around to different geographic locations. Thus these workers have no problem with changing jobs when they feel they need or want to change jobs. Many companies and organizations are realizing that these two related phenomena are resulting in vast amounts of know-how and other tacit knowledge “walking out the door.” Their leaders are developing a renewed interest in seeking processes, procedures, and even policies for dealing with *how* knowledge is developed and shared, recognizing that they are facing a state of affairs which no organization seeking to develop and grow (which definition of course includes any future-focused enterprise) can afford.

IMPLEMENTING ECM/KNOWLEDGE ASSET MANAGEMENT: THE IT CONNECTION

In a workplace structured as a knowledge culture, all parties seek to strengthen the relationship between technology and knowledge, with particular emphasis on KD/KS in the workplace. Extremely sophisticated tools are now available for capturing, storing, and retrieving rich content that—when retrieved by knowledge workers—is processed into knowledge. Indeed, technology not only provides the pipes or conduits for conveying the content back and forth. Now with the development of social networking technology and tools for value network analysis, real-time KD/KS is not only possible but, in many situations, is being established as a requirement of the workplace. Examples abound (with the much-discussed off-shoring of support staff by large corporations being the best known), and in almost every knowledge worker’s daily interactions and in almost every industry, similar behavior taking advantage of the company’s KD/KS process takes place.

Thus the essential role of IT and the development of information management as one of the three components of knowledge services is no surprise. In most organizations, it seems, management is now beginning to observe a welcome blurring of responsibility with respect to technology and knowledge, radically altering the separations so prevalent in the earlier days of electronic content capture and dissemination. In that not-very-distant past, the “pipes-vs.-content” distinction was accepted as the convention, with the people who managed information technology expected to have little or no interest in content management, service delivery, and least of all, in providing advice or interpretation with respect to the user’s needs and particular usage requirements. And vice-versa. People who dealt with content and its interpretation on a regular basis were generally not expected to be well-versed in IT matters, resulting naturally in a certain distance between those with IT responsibility and those who dealt with the information, knowledge, and strategic learning content provided by and accessed through the IT system.

That picture is dramatically changed now, and the IT professional is as likely to be referred to as an “information professional” or “content specialist” as other experts claiming those job titles. A healthy collaboration has been taking place over the past decade or so, and it is not unusual in today’s workplace to find the information specialist or enterprise content manager and his or her staff as part of the functional unit labeled “Information Services,” reporting to the organization’s Chief Information Officer (CIO). Likewise, in other businesses “Knowledge Services” will fall under the aegis of the Chief Knowledge Officer (CKO) or a Knowledge Services Director, with this functional unit shown on the company’s organization chart with responsibility not

only for the management and delivery of knowledge services, but with organizational IT responsibility as well. Further demonstrating the merging of this formerly discreet configuration, much of today's combined IT and knowledge services function is structured around identifying structures and management frameworks that enable the focus on content and KD/KS. The recent growth in corporate acceptance of software-as-a-service (SaaS) is a sure sign that when a company can outsource some of its technology management responsibilities, benefits accrue. Indeed, by making use of such innovative management methodologies as SaaS, the organization's knowledge services staff and selected members of the IT staff are then positioned to direct their attention to responding to internal service delivery needs relating to the company's larger business strategy,

As noted, connecting to these higher-level benefits is an attention to more formal collaboration, now mandated in some organizations. Obviously the development of—and acceptance in using—social networking tools has contributed greatly to the success of management's collaborative goals, and these links between IT professionals and other knowledge-focused staff are resulting in “location-neutral” workplaces for many teams and communities of practice. These can be expected to continue and increase in number, resulting in benefits for knowledge workers and for the larger enterprise as well.

Implementation may take place in a variety of modes and environments. We recommend that a structured information technology (IT) implementation strategy be used, since ECM has such a critical IT focus and would be impossible to implement without IT involvement. Using IT methods and terminology will assist in creating good communications and credibility for those who do not normally interface with IT professionals, and for those for whom ECM planning includes an established interface with IT staff, all stakeholders are using the same language and understanding one another's objectives.

A recommended structure for planning and terminology is offered here. It is based on the internationally recognized standard (PMBOK—the Project Management Book of Knowledge) that is used directly or with some modifications in most IT development organizations.

The standard is based on a “life cycle” model which assumes that any implementation has the following major stages:

- Initiation
- Planning
- Execution
- Controlling and Monitoring
- Closing

As information professionals with responsibility for initiating and/or implementing planning for an ECM strategic framework begin their

work, we recommend that these terms be used. Alternatively, if variations are used by IT partners, those terms should be determined and matched to these, so that they are used exactly as they are used in the management of the IT function. Particularly when putting forward proposals and communicating with senior management and with IT partners, this “same page” communication level is essential.

The following are some definitions and sub-components of these standard steps.

- **Initiation:** This stage includes preparatory research, needs analysis, and a formal proposal for the project. It is critically important not to be sparing with this stage. In fact, one of the major achievements of the PMPOK methodology has been to institute better and more comprehensive pre-planning into IT projects. Some typical sub-components of this stage are:
 - *Audit/Needs Assessment:* Ideally, this is in the form of a comprehensive “knowledge audit” or needs assessment of the target audience or enterprise. While beyond the scope of this management action plan, the methods and rationale for the knowledge audit—described in general terms earlier—will include several specific stages:
 - planning
 - data collection
 - data analysis
 - data evaluation
 - communicating recommendations
 - implementing recommendations
 - the knowledge audit as a continuum or continuing process.

A typical and powerful result of such an analysis can be the identification of a “serious business problem(s)” for which a compelling business case can be articulated.

- *Considerations:* The overall scope of the project and the rationale for the proposed scope of the project are described in this component. Typical scope parameters involve descriptions of the user population and organizational structures, general budgetary restrictions, and technology limits or imposed standards. The scope description should also consider and describe linkages to the existing portfolio of IT strategies and applications. Also important are statements that demonstrate harmony with the organizations enterprise architecture (as discussed elsewhere in this paper). Planners should also consider the user population’s culture, and if there are any strong political “ownership” opportunities or challenges. Change management begins here. Traditionally, concern about end-user uptake begins near the end of the execution

phase with rollout announcements and training. We recommend that change management efforts to engage users, change agents, and sponsors begin as early as possible. Among the reasons for this are the fact since ECM has the potential to directly impact user's personal workflow and productivity, success of the program is highly dependant on the user's uptake of the new system and procedures. Admitting that there will be some disruption immediately and understanding that the program can be challenging—even threatening—to the individual users, engaging change management principles can be highly effective at this point.

- *Planning:* Once *preliminary* approval is obtained (usually, this involves some level of management approval for individuals to spend their time and a limited amount of money on investigating the feasibility of the project), plans and research for a formal proposal of the project are put into place. This step usually involves further needs analysis, including pilot programs, resource planning, vendor and software selection, preliminary negotiations, and engagement with additional partners (internally and externally to the enterprise). The result is a formal proposal to management articulating the business benefits, risks, risks of not doing the project, resource needs, and a high-level timeline. By this time, a sponsor and project champions have also been engaged and given opportunities to express their support.
- *Execution:* Once the project is approved, the work of building the system begins. Usually the roles of a business owner, technical leader, project manager, and other roles are established. Sub-projects and timelines are established and monitored by the project leader and reported to the team. Pilots are completed and their results incorporated early in the project, and events such as testing and quality checks take place during the latter phases. At this stage, the change management best practice of developing a communications plan for keeping all stakeholders engaged and informed as to the progress of the project. This is especially important if (and probably when) timelines and deliverables change. Documentation of coding, configurations, version controls, and a host of other elements become very important in this phase. The end result of this phase, though, is three-fold: the rollout of the new product, communication and training of users in the use of the application, and a recognition of (and codification of, if required) changes in associated work processes. Careful monitoring of user uptake and resistance to the changes is a recommended change management best practice in this stage, and leads to the larger and critical role of controlling and monitoring in the process.

- *Controlling and Monitoring:* It is important to plan for and monitor usage, value, and other metrics during the ongoing life of the application and business processes, and these steps become especially important in planning the ECM strategic framework. Many times adjustments in the applications and procedures must be modified to accommodate changes in the work environment, software upgrades, and other changes. “Application Owners” should be established to monitor and control these changes, typically re-constituting small teams for this purpose. Often referred to as the “sustain” phase because there is recognition that it takes resources for the ongoing support of training, software upgrades, bug fixes, minor modifications of code and settings, and the like, this stage provides another opportunity for all players to agree on their future objectives.

At this point, there is a natural tendency for the portfolio of products and services to become heavy, and sustaining these can become an inhibitor of the organization’s ability to be flexible and innovative. If this turns out to be the case, good IT managers and IT portfolio managers will periodically look at an enterprise’s sustained operations and question the ongoing value of older applications, looking for redundancies and looking at usage metrics, and information professionals with responsibility for initiating ECM planning can do the same. The business owner of an application in this phase should be proactively monitoring the same metrics and engaging tools as advisory boards, champions, user’s groups, and value metrics in order to avoid arbitrary or un-informed portfolio decisions to close still-useful applications.

- *Closing:* This phase typically involves much more than merely shutting down the software. It likely involves transitions in business processes, data migration, possibly the archiving of some data into alternative systems, and communications with existing user communities. Best practices include good documentation of data disposition and lessons learned.

OUR SUGGESTED STRATEGIC APPROACH

The following steps are our recommendations on how to define and implement an ECM program:

1. Learn about and engage your environment and potential user base. A knowledge audit, surveys, interviews with executives, and the use of benchmarking studies are tools that can be used in this step.
2. Learn and confirm the culture and values of the organization. Nothing kills a project more effectively than one that is

misaligned with the user community's culture and values. Learning and discussing this topic and then incorporating the language and concepts learned in the early proposal stages of the project will ensure alignment and the best possible user uptake and value.

3. Challenge your mission. The opportunity to implement knowledge services will likely cause you—as an information professional—to stretch or propose stretching the very mission or purpose of your role or function in the larger enterprise. This is an essential exercise because it forces us to think of the largest possible impact of our initiatives. This enterprise mindset can be at once energizing and threatening. Relying on solid values, good research, and strong sponsorship will help ensure success.
4. Create an enterprise vision for knowledge services. Incorporate your knowledge of the culture, the enterprise needs, and the changing mission and values of the enterprise to create a compelling and clear future vision for the larger organization—and your role and that of all parallel information-, knowledge-, or strategic learning-focused business unit in the organization. This step will be an critical foundation to creating relevant and innovative enterprise goals.
5. Set specific goals. The SMART (Specific—Measurable—Achievable—Relevant—Time-bound) method can assist the ECM strategic framework planning team as it develops tangible and realistic proposals.
6. Propose plans: With the input and engagement of strong sponsors and champions, propose plans that are in alignment with the culture, methods, and procedures in your enterprise, using the implementation framework described above or, if your organization has its own planning framework, use these concepts as a guide and incorporate them concepts into the corporate framework.

PLANNING THE ECM STRATEGIC FRAMEWORK: DISCUSSION QUESTIONS

In the SMR International Management Action Plans, we speak often about the role of the information professional as the knowledge thought leader for the larger organization. The purpose of these discussion questions is to give you a “thought-outline” in which you capture and codify the required planning elements for your Enterprise Content Management strategic framework.

This is your opportunity for you and your colleagues to think about what it is you want to do with ECM and knowledge asset management and to explore, organize, and prepare the topics, concepts, and chronological sequence for the different action steps that will be required for your ECM strategic framework.

Once you have organized your ideas, you and your colleagues can then proceed to the next section and use the Action Plan format to structure your plan.

Establish Your Objective. Connect your ideas about ECM and knowledge asset management within the larger organization by responding to the following questions.

1. Provide a description of your background and interest in ECM for the larger organization where you are employed.
2. Is there discussion within the larger enterprise about the role of enterprise content and knowledge asset management in enterprise success?
3. Why are you (and/or your business unit) playing a role in developing a strategic framework for enterprise content management?
4. What do you mean when you speak about “planning a strategic framework for enterprise content management”? Put into words the desired effects or expectations for this process.
5. Who are the key players in this effort? Who has the authority to enable its success (resource allocation authority/stakeholder identification, *etc.*)?

Related to these considerations, who are the key players in determining organizational effectiveness? Is there an organizational development/organizational effectiveness functional unit in place? Are these people (managers and employees) aware of the role of knowledge services in organizational effectiveness and the place of ECM and knowledge asset management in knowledge services delivery?

6. Is the interest in ECM/knowledge asset management cross-functional?
7. What is the proposed scope of the ECM strategic framework? Are you speaking about content management for the entire organization, for a single individual functional unit, such as the unit or department with knowledge services management and delivery responsibility, or for a group of parallel business units? Describe the business units affected (and their functions, services provided, *etc.*).
8. Describe the services function for the larger enterprise. Include in your description reference to the organization’s mission, vision, and values statement and describe how the strategic framework for ECM will affect the achievement of the organizational mission.
9. Identify the *value proposition* for preparing a strategic framework for ECM. Discuss the following: the strategic framework for ECM will _____

Build Your Planning Structure

Initiation Phase: Organizational Needs Assessment

10. How did you determine your organization's need for ECM/knowledge asset management? Did you conduct a knowledge audit or use other methodologies to establish that the organization requires a strategic framework for ECM? What have been your findings? What recommendations have come from the audit or other needs assessment/evaluation process? [Note: To begin, consider widest reasonable scope, even enterprise-wide if appropriate, and think about ECM beyond traditional boundaries within the organization.]
11. How did you determine the proposed ECM/knowledge asset management solution, and how is it to be perceived in the context of the existing portfolio of IT applications? Can you identify the enterprise architecture structures, terminologies, and individuals responsible for enterprise architecture? [Note: fit your project thinking into this existing structure and test your language and logic with experienced application/project owners.]

Concepts for you to consider might include:

- How are these other applications perceived?
 - What is their scope?
 - Is there potential for synergies and combining resources with other functional units, especially units with parallel or similar functions?
 - Are there lessons to be learned from past implementations?
 - At the same time, are there innovation leaders known to your planning team who can bring fresh "out-of-the-box" thinking to the strategic framework planning process? Can you interest them in hearing your plans and sharing their experiences with similar projects in other parts of the organization?
12. Can you determine the organizational culture and the organization's readiness for change?
Concepts for you to consider might include:
 - The current KD/KS culture in the larger organization, its current knowledge-sharing activities, incentives/disincentives for KD/KS, and some history of KD/KS in the enterprise.
 - Leadership's expressed desire for improved KD/KS and any tangible modeling or reinforcement of same.
 13. Can there be developed a strong political ownership for a strategic framework for ECM? Is there or can there be developed a strong sponsor?

14. Is there a serious business problem that can be articulated and addressed by your proposed ECM solution?

[Note: identify the official proposal processes in the organization. Are forms required? If so, obtain them, fill them out, and seek advice from your sponsor and others with experience in managing change in the organization.]

15. How do you describe the organization's readiness for change? How has the organization responded to changes or change implementation in the past? Were these perceived to be positive or negative experiences?
16. Which ECM domains are included in your planning? Identify them and describe their relationship to improved knowledge services delivery for the larger organization.

17. Do you know the approval process in the larger organization? Can you identify the approvers/ How is innovation dealt with in the organization? Describe the process for recommending and leading a project or program that is “different” or which will require managers and leaders to think “differently” about their work and the workplace.

Take the following steps:

- Obtain existing/required approval forms
- Identify advisors, project managers, sponsors, or anyone else who as gone through a similar process
- Seek advice and input about
 - Process
 - Preparation
 - What to include (and what not to include) in the proposal
- Search for examples of successful prior projects
- Write drafts of your proposal and seek input from your project sponsor(s)

Consider pilot projects involving either limited audiences for testing and usability or for stepwise implementation (or both).

[Note: in running pilots, take care in managing expectations—with careful handling, pilot participants can become either strong advocates or very dissatisfied customers, often based on nothing more than whether they perceive the pilot project to either a committed-to, “real-life” application or merely a “test” or pilot.]

18. Describe what you experience in the planning phase of the project.

19. As the planning phase comes to its conclusion, are you prepared to weigh all the factors involved in the potential project against the liabilities and costs? Are you in a position to make that kind of judgment? Based on your findings and your professional opinion as a knowledge worker *and* as a manager, is a strategic framework for ECM feasible for the larger organization? For any of the individual units of the organization? Are you prepared to lead the effort? If you are successful, you will emerge as the knowledge thought leader for the company.

Execution Phase

Regardless of the type of implementation (*e.g.*, configuration of commercial software, custom software, licensed content, software as a service, *etc.*), execution should usually involve the following.

Use this checklist to establish that these criteria have been established and met:

- Thorough documentation of all programming, configurations, and decisions
- Quality checks and testing of phases and modules
- Interim usability testing by end-users
- Load testing of infrastructure units
- Testing and performance testing over networks and extranets
- Establishing effectiveness and value measures

At an appropriate point in the process (usually a milestone established early in the planning process), attention will also focus on marketing, publicity, and considerable discussion and planning with respect to rollout, to ensure that end users are brought up to speed regarding value, sponsorship, expectations, training, rollout dates, and similar basic information. The following rollout strategies and events will be considered:

- Audiences
- Rollout types (phased, segmented, or enterprise)
- Implementation of publicity events and other channels
- Associated communication pieces
- Initial feedback mechanisms
- Initial usage metrics

Controlling and Monitoring Phase

Find or devise a plan for monitoring, controlling, and ultimately closing your plan for a strategic framework for ECM. Considerations about the lifecycle of the knowledge services application should be anticipated and included here.

Consider the following:

- Records retention policies and licensed content storage and re-use compliance need to be monitored.
- Usage statistics and periodic evaluation by users, advisory groups, and portfolio managers and/or governance bodies should also be considered.

ACTION PLAN

<p>Overall Desired Effect (Specific, Measurable, Achievable, Relevant, Time bound)</p>	<p>To: _____ (Action Word)</p> <p>What: _____ (Desired Effect)</p> <p>By: _____ (Date)</p> <p>So that: _____ (Result or Impact)</p>
<p>Actions (Work Breakdown Structure)</p>	<p>Action _____ Who _____ When _____</p> <p>Action _____</p> <p>Action _____</p> <p>Action _____</p> <p>Action _____ Who _____ When _____</p> <p>Action _____</p> <p>Action _____</p> <p>Action _____</p> <p>Action _____ Who _____ When _____</p> <p>Action _____</p> <p>Action _____</p> <p>Action _____</p> <p>Action _____ Who _____ When _____</p> <p>Action _____</p> <p>Action _____</p> <p>Action _____</p>

Assets	<p>Sponsor:</p> <p>Assigned (or potentially assigned) people:</p> <p>Champions:</p> <p>Other Assets (partners, experts)</p>
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Threats	<p>Threat:</p> <p>Response:</p> <p>Threat:</p> <p>Response:</p> <p>Threat:</p> <p>Response:</p>
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Contingency Plan and Exit Strategy	<p>Trigger:</p> <p>Response:</p> <p>Trigger:</p> <p>Response:</p>
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AFTERWORD: MANAGING STRATEGIC CHANGE

Knowledge Workers

- Educated
 - Able to apply theoretical and analytical knowledge
 - Willingness to take different approaches to their work
 - Possessing a different mind-set
 - Committed to continuous learning
- Peter Drucker

In 1994, writing about the “age of social transformation,” Peter S. Drucker describes what the editors of *Atlantic Monthly* called “an economic order in which knowledge, not labor or raw material or capital, is the key resource.” In the essay, as he writes about the rise of the knowledge worker, Drucker makes it clear that the move toward a “knowledge economy” is more than simply a rearranging of the workforce:

The rise of the class succeeding industrial workers is not an opportunity for industrial workers. It is a challenge. The newly emerging dominant group is ‘knowledge workers.’ ...the great majority of the new jobs requires qualifications the industrial worker does not possess and is poorly equipped to acquire. They require a good deal of formal education and the ability to acquire and to apply theoretical and analytical knowledge. They require a different approach to work, and a different mind-set. Above all, they require a habit of continuous learning.

As Drucker was helping us understand the basic differences between what was expected of workers in previous societies and today’s knowledge workers—which term he had coined in 1959—an additional and critical attribute of the new workplace was being identified. During that same last decade of the previous century, John P. Kotter and other influential management leaders were stating that those same knowledge workers would also be required to manage change, to not only identify the changed work environment in which they were expected to perform but to adapt to the requirements of change, to ensure that the parent organization would continue to thrive.

INEVITABLE AND DESIRABLE CHANGE

As a fundamental component of the management function (and as noted at the beginning of this Management Action Plan), change is now recognized as inevitable. If pursued properly and with an eye toward long-term improvement, it is also desirable. This recognition continues and will continue to have much influence on how the organization’s knowledge thought leaders—and the people for whom knowledge services are delivered—succeed in their work.

With knowledge services, performance and innovation are uniquely connected, as those with responsibility for managing knowledge services seek to find new and better ways for delivering services to identified constituent users. We speak about knowledge services as putting knowledge management to work, the practical side of KM, and managing change in that context was connected, perhaps unwittingly, by Drucker in his *Managing in a Time of Great Change*. In the book,

Change is recognized as inevitable and desirable. Change influences the organization’s knowledge thought leaders as they seek new and better ways for delivering services.

Drucker described change management and entrepreneurial thinking in a quotation that is almost custom-made for information professionals and knowledge thought leaders:

An organization must be organized for constant change. It will no longer be possible to consider entrepreneurial innovation as lying outside of management or even as peripheral to management. Entrepreneurial innovation will have to become the very heart and core of management. The organization's function is entrepreneurial, to put knowledge to work—on tools, products, and processes, on the design of work, on knowledge itself

It is a difficult and sometimes complicated affair, this “putting knowledge to work.” In fact, the expectations (and aspirations) captured in the phrase had entered the lexicon of the knowledge worker as early as 1916, when it was adopted as the official slogan of the Special Libraries Association (SLA). As that organization and its service delivery emphasis on practical and utilitarian service delivery for information, knowledge, and strategic learning moved forward in the 20th century, we can see a natural transitioning into knowledge service's objective of putting knowledge management to work. It is not hard to see why. Putting knowledge management to work and identifying the practical side of KM—and then developing applications in support of the practice—must by definition connect to doing things differently, to changing behavior and the thought processes that underlie behavior (when behavior is thought about at all).

To meet that challenge, smart information professionals and their leaders in the organization turn to change management. At this point in the history of management as a science and as a profession, there are many approaches to dealing with change, change management, and change implementation, but for many managers (including information professionals with management responsibility), the best place to begin is with established change management principles. The authors identify four fundamental principles for successfully managing change, and while recognizing that there are inevitably any number of sub-concepts that support and enhance successful change, the focus in the knowledge services environment is on generally on the following:

The Four Principles of Change Management

- Sponsorship
- Champions and Change Agents
- Target Readiness and Surfacing Resistance
- Communication Planning

- *Sponsorship*. This change management principle identifies an influential leader who commits to a consultative role in the change process and agrees to express, model, and reinforce his or her commitment
- *Champions and Change Agents*. The emphasis here is on identifying and obtaining commitments from influential people willing to speak about the benefits of change and who will encourage adoption (champions are usually thought of as early adopters and change agents as individuals who will express and model the new behaviors to a population of users).

The Basic Steps of Change Management

1. Conceptualize
2. Prepare the organization
3. Organize the planning group
4. Plan
5. Decide
6. Manage the individual
7. Surface and address resistance
8. Implement
9. Evaluate

Susan Curzon

- *Target Readiness and Surfacing Resistance.* This change management principle recognizes that users and affected stakeholders are engaged early in the process and, when appropriate, invited to participate in general discussions about the change and—in some situations—to participate in planning change. This principle essentially diffuses resistance or, at the very least, gives those resisting an opportunity to be part of the effort to enable useful and productive change.
- *Communication Planning.* Of critical importance, this change management principle engages users early in the process and connects with the above principles in a coordinated and consistent manner. An example of an effective application of this principle is the development of a calendar of events or project plan that incorporates elements of a consistent message in language that matches that of the organizational culture in which the affected stakeholders are employed.

When looking to enter into the change management process for knowledge services, good background directions can be found in Susan Curzon's basic list (noted at left), provided a generation ago. Of course the first step is conceptualization, and in any organizational effort, moving toward a new or different management framework requires those with management responsibility to begin their thinking and their discussions with their colleagues.

Before change management can begin, though, good intentions must be tempered with a strong dose of reality, with asking a fundamental question: Is the organization (or its knowledge services functional unit) ready for change? It is all well and good to *want* to seek to transition the enterprise to a knowledge culture. It is quite another thing to take on such responsibility if the organization is not "change ready," as we generally put it. About ten years after Curzon, both Rick Maurer and Rosabeth Moss Kanter took on the study of organizational change readiness since, for the two of them, the success of any change process depends on the outcome of this determination. Maurer offers specific guidelines that continue to relate well, especially for knowledge services, and he advises organizational thought leaders to:

- **Build a foundation.** Ask how you can cultivate a strong relationship with those affected by the change, or how you can use the change to build relationships with other stakeholders.
- **Communicate with constituents.** Provide a context and a compelling business case for the change and, when you can, engage in face-to-face conversation about the change and its implications. At the same time, find ways to communicate informally with people at all levels in the organization about the change, throughout the life-cycle of the change.
- **Encourage participation.** To what extent are you identifying all the individuals and groups that have a stake in the outcome? Have you found way to involve them in the planning making decisions?

- Expect resistance. No matter how well change is planned, resistance will occur, so you must make special efforts to monitor people’s acceptance or resistance to the proposed change and, at the same time, engage people in dialogue so that their concerns can be heard and understood.
- Create rewards and benefits for stakeholders. Have you found ways to demonstrate that the change will be mutually beneficial for all stakeholders? How do the affected people know that the change will benefit them?
- Lead the change skillfully. Finally, you must take special steps to ensure that you have created alignment among diverse interests, that critical feedback is invited and will be given serious attention, that the compelling vision that you and your fellow change leaders have created is articulated to all stakeholders, and that people are informed about the change as it moves forward.

Kanter, when asked how organizational leaders get past “the rhetoric of change,” replied with characteristic directness, offering three key steps for information professionals and their organizational managers:

Change of any type can be pursued successfully only with a thorough understanding of overall organizational culture, and how that culture is likely to react to the change being sought. A potentially negative reaction need not derail change, but it must be taken into account in pursuing that change.

- They put actions behind their words; talk is cheap. Leaders that do the best job of leading change—first of all, they have a vision of where they want to go that’s well-articulated, communicated wisely, and communicated repeatedly. That way, everyone has a sense of the destination. There’s no point in talking about change if you don’t know where you want to go.
- Second, they look for exemplary practices—innovations—that are already occurring in the company that reflect the new way that they want to operate. Leaders puts those in front of people as tangible models of what can be done.
- Third, they organize to manage a change process in which projects help move the company to a new state of being. And they put real resources into it. Leaders give people responsibility. They set in place new measures that tell people what the standards are and measure progress toward the goals. They give feedback to an organization. They look to see whether policies, practices, systems, and structures support the change goals.

Kanter’s advice is particularly appropriate as information professionals with management responsibility for knowledge services turn their attention to the specifics of change that are required in the workplace. In moving to an organizational knowledge culture, particular attention must be given to ensuring that the relevance of the function continues and is not dissipated by external and non-essential distractions. At the same time, staffing for a knowledge-centric organization requires new and specifically developed skills and competencies which naturally include the ability to adapt to change. This sometimes over-whelming picture is all part of the transformation of the service delivery focus for knowledge services, and information professionals and knowledge thought leaders must recognize the enormous role of the larger and over

-arching organizational culture and its influence in determining success or failure in managing change. John P. Kotter—to become one of the most famous experts in change management—published his famous “eight-stage process for creating major change.” As Kotter sees it, organizational change must be “anchored” in the culture, which means that information professionals and others with responsibility for moving the organization to a knowledge culture must make every effort to understand the larger organizational culture before they attempt to make the change. In his book on the subject, Kotter suggests that successful change management has four particular characteristics which we can see relate specifically to change management in the knowledge services environment:

Successful change depends on results, since new approaches usually sink into a culture only after it is very clear that they work and are superior to old methods.

- Successful change requires a lot of talk, for without verbal instruction and support, people are often reluctant to admit the validity of new practices.
- Successful change may involve turnover, since sometimes the only way to change a culture is to change key people.
- Successful change makes decisions on succession crucial, since if promotion processes are not changed to be compatible with the new practices, the old culture will reassert itself.

Kotter then puts forward his eight-stage process, advising those responsible for managing change to:

1. establish a sense of urgency
2. create the guiding coalition
3. develop a vision and a strategy
4. communicate the change vision
5. empower broad-based action
6. generate short-term wins
7. consolidate gains and producing more change
8. anchor new approaches to culture

Obviously the transformation of any knowledge-centric organization into an enterprise built on a knowledge culture, with its broader and more demanding knowledge services responsibilities directed to a larger marketplace, is essentially an operational restructuring. At the same time—and surprisingly still posing a challenge to the successful development of a knowledge services structure—connections with information technology continue to come into play, as can be seen in the description of change management published by Ann Rockley in 2003, a definition that can—with a little imagination—be transferred to a definition of change management for knowledge services:

Change management is managing the process of implementing major changes in IT, business processes, organizational structures, and job assignments to reduce the risks and costs of change, and to optimize its benefits. Change management is focused on the issues of managing the resistance and discomfort experienced by people in an organization when new processes or technology are introduced.

As Rockley makes clear, for many people the tasks associated with change are difficult. In dealing with (or at least attempting to deal with) that resistance and discomfort, organizational leadership has a responsibility to recognize and attempt to understand the various barriers that inhibit change.

There are, of course, practical guidelines for dealing with resistance, and Sharon Penfold discovers useful and commonsense advice provided by experts in the Human Resources field:

- identify the type of resistance (expected as well as in evidence)
- analyze (based on the factors of intensity, source, and focus)
- look for behavior (emotional) and rational (system) factors
- view resistance as rational, not irrational
- ask what useful purpose the resistance is serving
- identify real or perceived negative consequences of the change
- weaken the apparent link between the change and the negative consequences
- reduce rather than eliminate resistance (e.g., avoid surprises, ensure participation)
- work directly with individuals affected to deal with their personal concerns
- use a mix of push and pull styles to influence individuals, dependent on each situation and individual.

From the perspective of many managers, change and change-related activities are traditionally considered—and are expected to be—disruptive and painful in the workplace, but that does not necessarily have to be the case. With a clear understanding of the elements of the change management process that support and enhance knowledge services, change can proceed for the common good. Indeed, for many leaders in the field, a focus on resistance is less productive than an emphasis on the benefits, and, as Lyndon Pugh accurately describes, “managers have already at hand the tools to do this, in addition to their skills in understanding the psychology of the people they work with.”

The key motivational structures, for Pugh, are job enrichment, job enlargement, and team structures. With them, Pugh connects successful change management (as do the present authors, as noted below) with Maslow’s recognition that an essential higher order need is self-esteem,

How Managers Ensure Successful Change

- Make work challenging
 - Give people the responsibility for organizing themselves and let them choose how they work
 - Give people power
 - Help people learn
 - Use every channel of communication possible “and tell people everything you can”
 - Share leadership
- Lyndon Pugh

coming from, as Pugh puts it, “a belief in one’s own ability and also in one’s value to the organization” and involving self-analysis and the achievement of “a realistic and honest view of one’s capabilities.” Such success also means that for managers, there is an obligation to encourage people to understand what they can accomplish and to provide support for them to do so. At the same time, change management, in Pugh’s assessment, “involves that most difficult of things, particularly for managers, that of seeking and accepting feedback from others.”

Pugh also gives a generous and surprising nod to R.H. Cox, who writes about self-esteem in sports: “Learning and development,” Pugh writes, “...play a part in increasing self-belief,” and he notes that—from the change management perspective—self-esteem is important for the long-term, an “essential pre-requisite for sustaining motivation. Once [self-esteem] is weakened, high-achievers become risk-avoiders.”

Pugh then provides his own lists for success with change management, for ensuring that—as we would frame it—the fear of “imposing” a knowledge culture is offset by a willingness and a desire to work with change management and change implementation principles to bring about a knowledge culture. In his first list (left), Pugh describes how managers bring about change success, to make the enterprise an interesting place to work.

Pugh follows this advice with a good list of specific managerial actions that will, he states, lay the foundation for a well-motivated workforce.

To accomplish this important goal, managers need to:

- Convince people what they can achieve in the new environment
- Design jobs to permit development and learning
- Engage in real and ongoing structural change
- Foster cultural change
- Develop and sell a vision
- Give people responsibility
- Communicate
- Change themselves (and take a good look at their own management patterns)
- Dispense with bureaucratic behavior

When change management for knowledge services works, there is no better time to be the knowledge thought leader for the organization. A fine example was published in 2007, in Linda Stoddart’s description of the development of a knowledge sharing strategic framework at the United Nations. The changes put in place resulted in many solid accomplishments, but of particular importance was the success of the change management process in creating a sense of community with respect to knowledge services. As described by Stoddart, “A sense of community has been fostered by the creation of a network of local points providing content across the organization worldwide.... This community approach has helped encourage

“Establish a sense of community by creating a network of local points to provide content across the organization.”

—Linda Stoddart
United Nations

knowledge sharing and a transition toward a more collaborative organizational culture.”

Notably, in this work the capture of the incremental steps Stoddart and her team undertook provide a strong model that, not surprisingly, incorporates important directions and reinforces their validity:

- Articulate the goal and establish focal point community
- Conduct a knowledge services audit
- Create an internal communications working group
- Reach out to all stakeholders
- Conduct planning and strategy focus training workshops

In recognizing and attempting to understand and ameliorate barriers to change, enterprise leadership carries out one of management’s most important responsibilities, the ability to sponsor success. The concepts we connect with sponsorship are often described in these Management Action Plans, included in a variety of contexts. Equally critical though (if not more so) is the role of sponsorship with respect to change management. Whether required for a single operational function or enterprise-wide, change cannot succeed unless senior management agrees to be involved and, indeed, to sponsor the change. When Drucker defined entrepreneurial innovation as the very heart and core of management, he was establishing that change must be recognized and managed, and it is in leadership provided by change sponsors that change succeeds.

The larger organization does, of course, include other people who have an interest in and perhaps enthusiasm for the success of the KD/KS process, and who are willing to be part of change as the process evolves. As noted earlier, partners and other knowledge workers who engage with the functional unit responsible for knowledge services are quick to speak about how valuable the products, services, and consultations of the unit are in their work, and in their collaborative work together in inter/intra-departmental projects, they come to know knowledge services well. But knowing and being in a position to influence change are two different things.

Likewise the good intentions of champions and advocates. These enterprise colleagues may or may not avail themselves of the contributions of the knowledge services function to their work. And while they may have good “feelings” about the place of knowledge in the organization, they are not in a position to do much more than say so, and often only when prodded or encouraged so to do. They are individuals who understand the role of change in the larger organization and who are interested in seeing change attempted but like the partners described above, they are not in a position to lead the change.

Slightly up the change-management “chain,” so to speak, are the organization’s change agents. These people—found at all job levels—

are people who can help with the change by providing influence where it is needed. While your champions and advocates can speak as early-adopter users who understand the benefits of the change, change agents are individuals the knowledge thought leaders have identified as people who can be indoctrinated to not only take advantage of the change but who are in a position to model the changed behaviors to a population of users.

Enter the knowledge sponsors. These enterprise leaders understand the KD/KS value proposition. They are senior managers who have learned—either through experience or through their interactions with the organization’s knowledge thought leaders—that the knowledge services function brings tangible and measurable benefits to the larger organization. They make it their business to authorize, validate, and demonstrate ownership with respect to knowledge services, and they take a consultative role in working with the information and knowledge specialists who have responsibility for the success of the knowledge services function. Quite often in supporting the idea of the enterprise as a knowledge culture, these senior leaders enter into a sponsorship agreement with the larger organization, outlining mutually accepted and agreed-upon actions they will take to express, model, and reinforce their connection with knowledge services. Working with the organization’s information professionals and knowledge specialists—who now take on a catalysis role in change management analogous to the role they have in knowledge services—knowledge sponsors ensure that the place of knowledge services is indeed one in support of the organizational knowledge culture.

Sponsors

Sponsors are senior leaders who enter into a sponsorship agreement for knowledge services with mutually accepted and agreed-upon actions to express, model, and reinforce their connection with the knowledge services function.

For an example, we might look back at an earlier approach to change management. Many remember an advertising campaign of several years ago, one which asserted that “change imposed is change opposed.” Today, in some circles, the same is said about knowledge services, that the development of a knowledge culture cannot be imposed upon a group of workers or made obligatory, at any level. No one disputes this but some even posit that there is no advantage to be gained in attempting to create a knowledge culture for an organization, institution, or enterprise. The present authors beg to differ. While we agree that imposed change is quite naturally wrong, if the goal is important enough, as we believe it is when we speak about the value of organizational success in an enterprise managed as a knowledge culture, the organization’s leaders can—and indeed have an obligation to—identify how the principles of change, change management, and change implementation will lead to the desired effect they envision for the larger organization.

A CHANGE MANAGEMENT STRATEGY FOR KNOWLEDGE SERVICES

When preparing the organization for developing and sustaining an enterprise-wide knowledge culture (and implementing the principles of knowledge services to do so), change management takes on a different cast. As we pursue our discussions about how we will lead the change, the situations are very appealing, because they enable us to envision just how good we can make our workplace. On the printed page or computer screen and in our conversations with our colleagues, it all looks very nice. The apparent ease of transition from idealized and theoretical KM to the practical, day-to-day workings in each situation appeal to the tidy and methodical perspective that many of us bring to our work.

But there is a different side to the story. Organizational change is hard, and while it is often not too difficult to articulate a new strategy or a restructuring, or to demonstrate the potential value of a desired result (as described earlier in those references to the pleasant intellectual discussions that take place), bringing any change into an organization is going to be difficult.* Hopefully concepts and ideas like those described in essays like this are helpful, but even when they are, we are forced to wrestle with dealing with change management and change implementation in our specific organizational environments.

What is hard—indeed, the hardest part—is getting the larger organization to understand the value of the change and to then accept the change as it becomes part of the organizational effort. As we speak about so often—almost unendingly in the management community—people and organizations just naturally seem to resist change. Nevertheless, if information professionals and knowledge workers truly desire to participate in the process of moving the organization to a knowledge culture, and indeed, to lead the process (which they should do), there are steps we can take:

1. *Define the change.* If we are not sufficiently clear and precise about what will be required (not just the desired end result but the activities that will be needed to achieve that result), it will be far too easy to resist or passively avoid any desired change. In terms of moving to a knowledge culture, to establishing a KD/KS framework for the knowledge transfer process in your organization, let the concepts and specific roles described here provide you with talking points, a basis for articulating the specific changes you desire to the people who can help you initiate change. This leads to....

* The techniques offered here are standard human change management principles. Interested readers might refer to Chip Conley's *How great companies get their mojo from Maslow*, which relates Maslow's hierarchy of need to change management, a connection with particular resonance as information professionals and other knowledge workers seek to prepare themselves for their profession's future role in society.

2. *Find your sponsor.* Before you begin, ensure that you can establish strong sponsorship for whatever change will be required. Despite the verbiage that supports “grass roots” ideas and discussions about “demonstrating feasibility,” there is a strong need for an advocate or champion (or several) to take a stand. Additionally, that person or group of people is going to be required to move from simply championing the change (“that’s a good idea”) to actual participation (“what you’re proposing will impact my work—I’ll support it, I’ll tell people how this helps me and the company, and I’ll reinforce the change”). Usually there is a point in the change process where people’s behaviors and decisions need to be influenced on a substantial scale. That can’t happen unless there is leadership buy-in and a commitment to buy-in that is expressed in the words and actions of enterprise leaders.
3. *Create alliances and identify change agents.* The organizational shift to a knowledge culture is initially the result of an alliance (or in many cases a group of alliances). Utilize the various elements of the many definitions of KM that fit your situation, match them with information management and strategic learning in knowledge services, and work to establish a KD/KS environment with knowledge services as your management methodology and service-delivery focus tool. Then integrate those alliances. Start with like-minded functional leaders and thought leaders in your organization and join with them, with all of you working as change agents and identifying areas where you and they share concerns related to the full range of information/ knowledge/strategic learning interests. Look for areas where knowledge sharing is needed but is not taking place or not working well, and engage with these colleagues to come up with integrated solutions. The end result will benefit all business units in the organization, realizing an enterprise-wide holistic solution.
4. *Use caution.* Be wary of quick fixes and reactive responses.* When there is an established desire for improvements in the knowledge transfer process within the organization, leading, perhaps, to the beginnings of a knowledge culture, many of the players (including sponsors) naturally start to look for mere tools or techniques. What you will hear is “Ah, hah! Now we are ready for KM/knowledge services. Find me the best software application and let’s make this happen!” Be careful. It’s not just about software.

Keep in mind that at this juncture in the knowledge services process you will be required to reiterate to your colleagues and your organization’s leaders that culture shifts require new ways of doing work and new ways of relating to stakeholders in the enterprise, and in addition to strong reinforcement from sponsors, you will require a variety of approaches and tools. Understand clearly that you will need a comprehensive approach that involves the spectrum of KD/KS

* Not to be confused with quick wins as incremental steps towards the overall objective, as these can be powerful change forces.

solutions and the integration of appropriate functions and approaches. With such an approach, you can position yourself to ensure higher value realization and smoother change management, resulting in real, sustainable change for the larger organization. This is the hard work of knowledge services. Putting knowledge management to work and using knowledge services to enable your practical solution is hard. But it can also be said that putting knowledge services in action is the most rewarding part of the entire effort.

THE ORGANIZATIONAL KNOWLEDGE NEXUS: A CAUTIOUS PREDICTION

This Management Action Plan concludes with a guarded prediction about knowledge transfer in the future. If our studies and observations demonstrate a continuing direction toward the acceptance of business value for knowledge (as we feel they do), and if, at the same time, enterprise leadership continues to strive for strengthened KD/KS throughout the organization, we expect this knowledge transfer process to take place in an organizational environment that of necessity will be established as a knowledge culture.

We also predict that the role of specialist librarians, information professionals, and other knowledge workers and their services to the organization will be one of knowledge leadership in this environment.

This evolving role will be based on their knowledge expertise and their willingness to assume knowledge leadership for the larger organization, of being the organization's knowledge thought leaders and taking on responsibility for management enterprise-wide knowledge services. However that activity is currently structured or otherwise implemented in the organization, it will be strengthened if it is shaped to serve as a centralized function, a knowledge "nexus" or a knowledge "hub" for the larger enterprise.

Today's knowledge workers and knowledge leaders are the professionals who are best qualified to manage this function. Ideally, this operational function will assume formal responsibility for all information, knowledge, and strategic learning development, management, and delivery for the larger enterprise. This centralized "nexus" function will indeed be a function. It will probably not be a space or a "place" (unless as an operational function it has responsibility for maintaining a collection of artifacts such as books, bound journals, and the like, but that is another story). In our envisioned (and perhaps somewhat idealized) scenario, the knowledge nexus—the knowledge services delivery function and the management of knowledge assets—plays a comprehensive and holistic role for the entire organization and makes a tangible and measurable contribution to mission-critical success.

Even in complex organizations, or in organizations that cannot support such a commanding role for a knowledge-focused operational function, the power of such an embedded and visionary philosophy can effectively move traditional “reactive” service delivery (and even “proactive” service) to higher levels of organizational impact. It is a strategic approach that not only allows the natural synergies among the disciplines that are the elements of knowledge services (information management, knowledge management, and strategic learning) to succeed. Indeed, with this approach there is the added opportunity of taking on a more interactive and integrated function across the larger enterprise and (perhaps more important) an integration opportunity with specific business processes. In fact, the more of this latter integration there is the more progress the enterprise can make towards building that knowledge culture to which so many organizations aspire. It is a scenario that today’s information professionals and knowledge workers can envision for themselves and, with considerable enthusiasm, work toward achieving.

For information professionals, specialist librarians, and other knowledge workers, the future looks bright. They are—or will become—the knowledge thought leaders, knowledge consultants, and knowledge coaches for their parent organizations. They recognize that putting KM to work is critical to their and their organizations’ success, and they delight in bringing a practical approach to their work through the convergence of information management, knowledge management, and strategic learning. As organizational leadership and management come to understand the relationship between technology and knowledge and to understand better the relationships between quality in knowledge transfer and organizational success, knowledge services—as a management and service delivery methodology—becomes the route to that success. These information professionals are prepared and ready to play their part, leading their organizations in the creation of knowledge value through KD/KS.

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