KM/Knowledge Services:

The Future of Academic Knowledge-Sharing is *Now*

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During the last decade, there has been a sea-change in organizational management. Whether we are speaking about the management of a corporate enterprise, a not-for-profit or non-profit organization, or an academic institution (where we often refer to the "administration" of the institution rather than to its "management"), we have witnessed an amazing turn-around in approaches taken by organizational leadership to ensure organizational effectiveness.

It is now clearly established that it is through the development and sharing of knowledge that we achieve organizational effectiveness, with the attendant utilization and commitment to digital information collection, storage, and access. When we connect this important mechanical advantage, with its massive opportunities for even more potential for knowledge development and knowledge sharing, we realize that we have indeed come to a remarkable time in history, a time when we have splendid tools and resources for achieving the organizational and (in your case in the academy) institutional mission.

Knowledge Use and Knowledge Value. We come to this conclusion by considering two connecting elements that influence what we know and understand about knowledge in our lives, particularly, about how we use and value knowledge. In the first we focus on the knowledge culture, and give some thought to the institutions and organizations where we work and their role as a knowledge culture.

The knowledge culture is an organization in which knowledge development and knowledge sharing (what we in the field call "KD/KS") are practiced as well as they can be practiced. Structurally, the knowledge culture is a knowledge-centric place where stakeholders and affiliates have shared beliefs and values about knowledge and the role of knowledge in the organization, in their work, and – for many – in the larger society.

The second of these connecting elements has to do with the framework through which the knowledge culture is built and sustained. Here we give consideration to knowledge management (usually referred to as "KM") and to that outgrowth of KM we call "knowledge services" – the convergence of information management, KM, and strategic learning as a management methodology, and to see them as the basis for very "natural" opportunities and applications in the academic and scientific research and development environment.

The Knowledge Culture. In seeking to understand the role and value of the knowledge culture in this environment, and to frame transformative research for sustainable development in the knowledge culture, we look at KM and knowledge services. We recognize that society (locally or globally) requires attention to knowledge, to knowledge development and knowledge sharing and to how knowledge is used once it has been developed and shared. In the knowledge culture the success of every interaction rests on the quality of the knowledge developed and shared, and the society (or group or organization) cannot grow, expand, and evaluate its success without attention to the quality of the knowledge that forms the critical foundation of its success. In learning this, we have also come to understand that the much-heard-about "good enough" – in terms of information management, knowledge management, and strategic learning – only ensures the *status quo ante*. If we, as members of a group or organization (or society) aspire to *move forward* and to be *more than we are*, we must require the highest standards of excellence in knowledge services delivery. The knowledge culture we create and expect to sustain comes from and builds on the efforts of all of us to seek those highest standards of excellence.

So the goal is knowledge excellence, positioning the university, the academic research environment, as a knowledge culture. To achieve this goal, to establish and recognize together that the knowledge culture is a valid institutional aspiration, we learn to talk about knowledge, to understand that knowledge (please forgive the oversimplification) is "what is known." For most of us, we get more specific, for we are seeking to deal with practical and utilitarian information, information that leads to action based upon insight and experience or, as one of my partners in our company has described it, "knowledge is information that is used."

At SMR International (where our corporate tagline is "building the knowledge culture"), we have learned that the knowledge culture has several specific attributes. For our purposes today, I emphasize three**:**

1. collaboration is a given – and expected – at all levels of the organization
2. the role of information and communications technology (ICT) in the knowledge development/knowledge sharing process – the KD/KS process – is acknowledged and enthusiastically embraced
3. the intellectual foundations for the effort – for KD/KS – are respected – the intellectual quest is not disdained.[1]

If you agree with my emphasis, I think we will also agree that the university – the academic research and development environment – is the ideal setting for building and, through its KM/knowledge services framework, for sustaining a knowledge culture.

In speaking of the knowledge culture, the university is obviously already ahead of the game, for since classical times the connection between knowledge development and knowledge sharing and the "workplace," so to speak, has been in place in the academy, with a strong commitment to knowledge that is the very foundation of the institution's inspirational and aspirational pursuits. No one is at all surprised when those affiliated with the university speak of knowledge, or of the place of

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[1] St. Clair, Guy. *SLA at 100: from "putting knowledge to work" to building the knowledge culture.* (Alexandria, VA: Special Libraries Association, 2009).

knowledge in the pursuit of learning. It's all part of the package, and through our experiences in academic institutions we come to the conversation about knowledge and its role in society willingly and with considerable enthusiasm.

At the same time, for probably many reasons, the **management** of knowledge and the application of KM/knowledge services in universities do not seem to be strongly established. My comments today are offered to suggest – as academic institutions move toward transformative research – that the distance is not as far as some might suggest. You already maintain beliefs and values about knowledge that build on and connect with an understanding of the role (and value) of information, knowledge, and strategic learning, and you understand how these elements converge for the benefit of the institution. Those beliefs and values will give you the direction you need as you move to transformative research.

Getting to the knowledge culture was a development we might have predicted, for certain signs led us to KM and to knowledge services. As early as the 1980s, increased computer power put us all on guard that something important was happening. While some of the runes were misread (such as the prediction about the "paperless office" – remember that one?), there was no doubt but that the new field of information management and information science would enable sophisticated information capture and retrieval. Lynne Brindley, Chief Executive, The British Library, has described what happened:

> The concept of the information strategy was emerging, whereby information and libraries were seen as important knowledge resources to be harnessed and increasingly treated as a strategic asset – to underpin teaching and learning, research and knowledge transfer activities – which needed to be valued and managed.
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> Information strategies emerged in the 1990s in universities, with more or less enthusiasm, and beyond universities the focus was on the discipline of knowledge management, the concepts of knowledge exploitation for competitive edge. There was recognition of the increasing economic value of information - of knowledge, both tacit (in people's heads) and explicit (more formal), as a key element of the corporate assets of the business.[2]

Brindley went on to point out that a strong proponent in this recognition of the emerging knowledge-based economy was Thomas Stewart, who had defined intellectual capital as "intellectual material that is put to use to create wealth." In doing so, Stewart had introduced the concept of KM (although it was not called "KM" at the time): "Intellectual capital," he said, "is the sum of everything everybody in a company knows that gives it a competitive edge." [3]

The movement toward "knowledge management" now began to make sense, and KM began to gain attention amongst leaders in the management community. And as management began to connect

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[2] Brindley, Dame Lynne. "Challenges for great libraries in the age of the digital native," National Federation of Advanced Information Services (NFAIS). Conrad Lecture, 2009.

[3] Stewart, Thomas A. *Intellectual capital: the new wealth of organizations*. New York: Doubleday, 1997.

the electronic capture of KM elements with knowledge sharing, performance, and strategic learning, the advantages of KM began to fall into place (and, importantly, to be recognized as *corporate* advantages).

Yet there was still tension, for KM was not turning out to be the panacea it had been trumpeted to be (just as information technology itself had disappointed some managers when it did not meet expectations). For one thing, we had not been able to define KM, and that famous (and now nearly ubiquitous) "KM" was still floating around, with as many definitions as there were people attempting to define it. Stewart's concept of intellectual capital was followed by a long decade of attempted definitions for KM, but we couldn't make any of them stick. Why not?

The answer – after a few years and the attempts of many smart, well-qualified people – eventually became clear. It was a problem of semantics.

Knowledge Management: The Definition Conundrum. For a concept to gain acceptance, people have to understand what they are doing and what they are talking about when they describe what they are doing. In this case, describing knowledge management turned out to be a very real barrier to organizational acceptance. The *management* of knowledge is simply not possible, and knowledge *management* is simply out of the question. We cannot *manage* knowledge, as Larry Prusak and Tom Davenport – two of the early leaders of KM – put it, no more than we can "manage love, or honor, or patriotism, or piety."

What organizational leaders really needed was to figure out how to *work with* knowledge. Indeed, *working with* knowledge became a valuable construct for those who wanted to take an organization's intellectual infrastructure to a higher, more effective level, and led by Prusak and Davenport, we began to think of KM as simply *working with knowledge*.[4]

So by the early years of the present decade, KM was not only awkward to describe, it was a difficult concept in the management toolbox, and complicated to implement. There were a couple of reasons. One had to do management education, and Prusak and Davenport's concerns about the phraseology were absolutely realistic. Most executives and managers were not educated to consider the role and value of knowledge as part of management, and they simply could not get their "arms around" – intellectually speaking – the idea of *managing* knowledge. At the same time – or perhaps a little later – there began to be confusion about information management, about the role of ICT departments and offices, and their work in providing the electronic underpinnings for the digitized information that would transform into knowledge.

Knowledge Services. So we moved to knowledge services, a management and service-delivery methodology – a way to work – that converges information management, knowledge management, and strategic learning into a single over-arching operational function. As a management methodology, knowledge services recognizes that the most critical asset of any group or environment is what its people know, and this knowledge – this intellectual capital – is the organization's most competitive asset. Moving to knowledge services provides the organization with

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[4] De Cagna, Jeff. "Keeping good company: A conversation with Larry Prusak." *Information Outlook* 5 (5), May 2001.

the tools its people require for ensuring that the institution's intellectual assets are captured, organized, analyzed, interpreted, and customized for maximum return to the institution.[5]

Made up of these three until-now disparate management tools, knowledge services is not a complicated concept, this idea of bringing these three tools together. And for most of us, we're pretty familiar with what they are already.

Certainly we are all familiar with information management, the computers, the ICT frameworks that keep our offices and our homes and, indeed, much of our lives running. In the workplace, with much of this carrying over into the rest of our lives, information management is a methodology that helps us keep all the digital "parts" in place. It is powered by ICT, running any product that stores, retrieves, manipulates, transmits, or receives information electronically in a digital form.

Similarly, KM is our way of working, helping us deal with explicit, tacit, and cultural knowledge in ways that enable us – and our workplace – not only to generate new knowledge but to re-use what we know to create new knowledge. As a management methodology, KM is powered by KD/KS – the development and sharing of knowledge and – as conventional wisdom would have it – through the utilization of ICT. But we know – and have learned very well – that in reality it is the human interface that is the critical element of KM.

So how does knowledge services work?

Here's the way we describe knowledge services to clients, borrowing an analogy that Outsell – an American information services company – offered several years ago: Imagine an oil or gas pipeline. The pipeline is not of much use if it doesn't have any oil or gas passing through it. So it is with ICT, information, and knowledge – ICT supplies the pipeline, and the product that passes through it is the information that people need, the information they must work with, to turn into knowledge or, if it has already been generated as knowledge, to re-use to create new knowledge….

But we need more than the pipeline and the stuff that's flowing through the pipeline. With knowledge services the picture doesn't come together until we bring in strategic learning, our way of dealing with strategic knowledge, giving us a framework for enabling those who develop knowledge to share it, for the benefit of everybody in the workplace. Or, to get right down to it, strategic learning is simply anything anybody does to learn how to work better – to work smarter….

But sometimes it seems a little too easy, doesn't it? A little too simplistic. And, yes, in our work we are often asked: cannot knowledge management do the job? Why must KM converge with information management and strategic learning to support enterprise success?

There are two reasons. The first is that in today's business and research environment, the management of information, knowledge, and strategic learning as unconnected activities (even when these activities are recognized as related) is insufficient.

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[5] St. Clair, Guy. "Knowledge services: your company's key to performance excellence." *Information Outlook* 5 (6), June 2001.

The problem has to do with those "silo" or "stovepipe" issues we hear so much about. For several years, leaders in these three disciplines have been doing a good job of establishing their credentials and working in their particular area of expertise. Engineers and technical professionals, for example, made great progress in resolving the issues connected with managing information (with no small assistance from many, many intellectual leaders in other disciplines, it must be noted).

KM, too, when it came into the picture as intellectual capital, created its own body of practitioners although, as we've noted, at times it was a confused and amorphous coterie of people doing their best to bring some level of order out of the KM chaos.

And it was the same with strategic learning. In many fields, the development and provision of strategic learning as an operational function was given attention, and very successful tools and techniques for managing strategic learning were created and implemented.

But these efforts were not enough. Why? Because organizational managers, corporate executives, and even leaders in organizations and institutions that were not necessarily business-focused required a unified approach. For efficiency and for effectiveness, they needed an enterprise-wide knowledge strategy that included *all* strategic knowledge and would enable the enterprise to access and deliver *any* content connecting to any part of the organization and, not to be dismissed, to its success. They wanted to see a *practical* approach to managing knowledge.

Knowledge Services: The Practical Side of KM. And since they could not – quite understandably – grasp the idea of knowledge *management*, they had to be given something they could understand, a practical approach to servicing the knowledge-sharing needs of their employees, partners, affiliates, and anyone else with a reasonable interest in their organization's effectiveness.

One thing executives did understand was the concept of services, enterprise support activities that are part of the organizational financial framework and included in that framework – as part of the cost of doing business – or contracted out and paid for. So it made sense for them to respond to the idea of services for knowledge sharing. Since they understood the purpose and function of, say, legal services, or accounting services, or HR services, they could understand the purpose and function of knowledge services.

At the same time, management leaders in organizations and corporations began to recognize that enterprise-wide knowledge sharing cannot take place through the outputs of discreet functional entities, and this brings us to the second reason why KM alone cannot do the job. With the build-up of these many separate and distinctive disciplines for handling knowledge content over the years – along with the concomitant growth of academic or academic-type education and training in support of those disciplines – organizations became flooded with functional units that were theoretically supposed to be about knowledge capture and knowledge sharing.

In reality, exactly the opposite happened. With functional units such as records management departments, specialized libraries, corporate archives, staff training and learning units, even information technology departments being created and put into place as individual and separate operational entities, no one was looking after *enterprise-wide* knowledge development and knowledge sharing. No thought was given to an institution-wide knowledge culture, one that would engage not only the usual knowledge-focused units of the organization, but *all* functional units

(since they were all challenged to develop and share knowledge). The entire organization needed a practical way to deal with knowledge, to establish some sort of efficiency in each section and to be of benefit to the larger enterprise.

So knowledge services came on the scene to meet those needs.

Of course it didn't happen immediately, or quickly. Indeed, the first suggestions about knowledge services as a practical approach to managing information, knowledge, and strategic learning were not until 2001 or so (as far as we can tell). Once identified and articulated, though, I am happy to report that this particular refinement of KM caught on, and now we have many organizations using and indeed exploiting knowledge services as the management methodology for knowledge sharing.

Remarkably, as enterprise leaders began to focus on knowledge services, very important things happened. Among these has been – and continues to be – a new emphasis on workplace roles associated with knowledge sharing. There are still strategic knowledge professionals (information professionals, specialist librarians, records managers, archivists, and the like) identifying and organizing knowledge "artifacts." Much of the substantive work of knowledge services, though, is now being done by people far removed from these fields, people with titles like "director, knowledge strategy," or "knowledge coach," or "knowledge thought leader."

Their range of activity has enlarged, too, as knowledge services re-focuses organizational employees and affiliates from reactive or even pro-active interactions with one another and positions them as integrated and interactive knowledge sharers. In this workplace, people no longer wait to be asked to offer an opinion about how knowledge can be developed – or shared. It's a whole new world, this knowledge-centric workplace, and it now includes the attributes associated with the organization or the institution as a knowledge culture.

Management/Administrative Applications. That "new world" is nothing new to you, for not only have you operated – as a university – as part of an already-in-place knowledge culture, you are immediately and dramatically in touch with what is happening in terms of your primary stakeholders, the students who come to you to learn.

As the exemplar of Peter Senge's learning organization and the subsequent articulation of the enterprise as a teaching organization identified by Noel Tichy and Eli Cohen, the university is a natural environment for the application of knowledge services principles.

In the delivery of its "product," the training and development it provides for its students, the knowledge-sharing expertise and commitment of its faculty, and its interactions with the business and scientific world beyond its borders in its research and development programmes, the university is a virtual honeycomb of opportunity for the practice of knowledge development and knowledge sharing. KD/KS acknowledges that performance is linked to learning and the functions of the learning organization and connects to Senge's "elements of context" by exploring the KD/KS process with attention to vision, value, integrity, dialogue, and the now-famous systems thinking. Naturally there is the connection with Senge's five disciplines as well, and as all knowledge services practitioners

have now learned, such qualities as personal mastery, mental models, shared vision, team learning, and, again, systems thinking come into the picture.[6]

Equally important, knowledge services connects also to what is referred to as "the teaching organization," given substance in the work of Noel M. Tichy and Eli Cohen. For Tichy and Cohen, the link is an appropriate one:

> Teaching organizations share with learning organizations the goal that everyone continually acquire new knowledge and skills. But to that they add the more critical goal that everyone pass their learning on to others.[7]

For Tichy and Cohen, the focus is on the enterprise-wide strength that comes to the forefront in the teaching organization, as the KD/KS process clearly demonstrates. They see leadership development as a "core competitive competency" in the teaching organization, together with an emphasis on identifying and developing what they call "teachable" points of view, content that is not simply structured for "training the trainers" but which drives staff members to teach others at the highest levels of enthusiasm and sharing. Finally, Tichy and Cohen look to a wide-scale framework and teaching that goes beyond technical skills. To get there, they give much attention to their own disciplines, you might say, four "success factors" for the teaching organization:

- ideas – organizing people, capital, technology
- values – what behaviors influence workers in the workplace?
- energy – turn changes into "positive, energizing events"
- edge – willingness to make tough decisions, together with clarity of attention to reality, information, organizational culture, how decisions are made

At the university, the beauty of bringing the principles of knowledge services together with those of the learning organization and the teaching organization – principles already in place in the academic research environment – is that they provide a convenient and natural framework for thinking about today's university environment.

The point is particularly well made in last December's report from Alison J. Head and Michael Eisenberg at the i-School at the University of Washington. Entitled "Lessons Learned," this "progress report" from Project Information Literacy (PIL) begins with a provocative introductory paragraph:

> Welcome to college in the digital age. Students are entering the world of higher education at a time when the entire digital information universe is expanding at an unprecedented rate — six-fold each year. This dramatic proliferation of available information coincides with young adults being asked to receive, access, evaluate and deliver more information than most have ever had to process in their lives. It is a challenging task some may never be called upon to do again at quite the same pace and level.

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[6] Senge, Peter. *The fifth discipline: the art and practice of the learning organization*. Doubleday/Currency, 1990.

[7] Tichy, Noel M. and Eli Cohen. "The Teaching Organization," *Training and Development*, 52 (7), July, 1998.

Following this dramatic attention-getter, the reader is provided with much information about students and their research methods and habits. Much of this was already known, but only in very loose and casual ways, and Head and Eisenberg's evidence clearly verifies what many have suspected. For example, the information-seeking strategies of most students seem to rely "on a small set of common information sources – close at hand, tried and true," and students exhibit "little inclination to vary the frequency or order of their use, regardless of their information goals and despite the plethora of other online and in-person information resources – including librarians – that were available to them." The students "used a strategy for finding information and conducting research," Head and Eisenberg report, "that leveraged scholarly sources and public internet sites and favored brevity, consensus, and currency in the sources they sought."

1. Many students in the sample reported being curious, engaged, and motivated at the beginning of the course-related and everyday life research process. Respondents' need for big-picture context, or background about a topic, was the trigger for beginning course-related (65%) or everyday life research (63%).
2. Almost every student in the sample turned to course readings – not Google – first for course-related research assignments. Likewise, Google and Wikipedia were the go-to sites for everyday life research for nearly every respondent.
3. Librarians were tremendously underutilized by students. Eight out of 10 of the respondents reported rarely, if ever, turning to librarians for help with course-related research assignments.
4. Nine out of 10 students in the sample turned to libraries for certain online scholarly research databases (such as those provided by EBSCO, JSTOR, or ProQuest) for conducting course-related research, valuing the resources for credible content, in-depth information, and the ability to meet instructors' expectations.
5. Even though it was librarians who initially informed students about using online scholarly research databases during freshmen training sessions, students in follow-up interviews reported turning to instructors as valued research coaches, as they advanced through the higher levels of their education.
6. The reasons why students procrastinate are no longer driven by the same pre-Internet fears of failure and a lack of confidence that once were part of the college scene in the 1980s. Instead, we found that most of the digital natives in the sample (40%) tended to delay work on assignments as they juggled their needs to meet competing course demands from other classes.[8]

Head and Eisenberg's findings are somewhat surprising, but I doubt if you're surprised, since you work with students every day. As for me, I wasn't surprised to learn that students are curious and engaged but it did come as something of a shock that they *don't* turn to Google first. Doesn't that contradict conventional wisdom, which tells us that people don't need libraries because "everything is on the Internet and you find it on Google"? Perhaps the conventional wisdom is wrong. Perhaps when people become engaged – especially young people like students – they go to where they can get the best information, not simply the fastest or the easiest to access.

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[8] Head, Alison J., and Michael B. Eisenberg. "Lessons learned: how college students seek information in the digital age," Seattle, WA: University of Washington i-School, 2009.

It's also something of a disappointment to me to learn that librarians are consulted only to get the students up to speed with their research methodologies, after which they turn to their instructors. Nothing wrong with that, I suppose, and certainly it fits in with Edward M. Marshall's ideas about collaboration, which we'll speak about in a moment. Since we naturally collaborate most frequently with those with whom we're in contact most often, certainly students are going to collaborate most often with their instructors.

These findings make it clear – it seems to me – that the time is ripe for universities to move to an institution-wide KM/knowledge services approach for knowledge development and knowledge sharing. While the traditional "home" for knowledge services has been the corporate workplace, this opportunity to cross traditional boundaries is a welcome one, and allows us to look at some of the issues that can be shared as we consider the university as a knowledge culture. For example, we can quickly speculate that while the for-profit field has often been the breeding ground for innovation, what happens in the academic community (not only in the classroom but, particularly, in research and development) is nothing less. Surely the research that goes on leads to accelerated innovation, and with accelerated innovation one of the identified deliverables of knowledge services (along with strengthened research, contextual decision making, and high-level knowledge asset management), it seems reasonable to latch on to the idea of the university as an equal breeding ground for innovation.

In point of fact, your management objectives are very similar to those for a corporation seeking to undertake transformative research. As the research is developed, the impetus to share those developments leads directly to organizational success. An only difference might be that in the academic institution we would not expect research activity to be driven by the profit motive. Yet in reality there is a very purposeful objective to achieve financial success as part of the effort, even as you deal with bringing knowledge services into academic and scientific research and development.

If you want to move in this direction, your institutional management team will want to develop an enterprise-wide knowledge strategy. Now this is not the place to provide you with a lesson in knowledge strategy development, but I can refer you to our [corporate website](#) where you will find considerable information on this topic.[9] Why do I propose this? Because without a knowledge strategy your institution's knowledge services programme will be a disappointment.

For you, your knowledge strategy will include such basics as

- figuring out what you need
- developing a methodology for addressing those needs
- identifying and addressing solutions, and
- moving forward with project planning, change management, communications, and training.

These will all combine to provide you with real-time and practical answers to your knowledge-sharing situation and, in fact, when implemented provide certain benefits to stakeholders – including students, faculty, and all others affiliated with the university. A natural outcome of these benefits will be a new look at staff and professional roles, together with a new focus on collaboration, a key element in the KD/KS process, as has been made clear in the work of Edward M. Marshall. Indeed, I

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[9] SMR International. [Knowledge Strategy Development: Project Completed – Lessons Learned](#). June, 2010.

would contend that for knowledge services in the university, you have a natural ambiance for collaboration.

As Marshall sees it, the collaborative impulse simply builds on its make-up as a principle-based process in which people work together, producing trust, integrity, and what Marshall refers to as "breakthrough results" by building consensus, ownership, and alignment in all aspects of the organization. Put another way, he says, collaboration is the way people naturally want to work, and he even went so far – writing in 1995 – as to suggest that collaboration was "the premier candidate to replace hierarchy as the organizing principle for leading and managing in the 21st century workplace."[10] It didn't work out quite that way, of course – nothing is ever quite that simple – but nonetheless, Marshall correctly identified collaboration as an element of organizational success that cannot be ignored and that connects directly with what we are doing with KM/knowledge services.

Thinking about collaboration from the management perspective, and about how KM/knowledge services applies in the academic research and development environment, we can look at some of the KM/knowledge services opportunities available to you, both in the pursuit of transformative research and, by extension, throughout the larger academic and scientific research environment.

To begin, let's recognize that you already have an example for how this can work, a prototype already in place. I'm speaking of the instruction in KM that is part of the curriculum in your agricultural information and communications management programme. Could it not serve as a model for similar course content in other curricula? Could not all subject area courses benefit from including a KM component? And what about the practical side, knowledge services, so that all students and faculty associated with a subject have the opportunity to work with and understand the information, knowledge, and strategic learning elements of, say, health sciences management, environmental studies, and the like?

Other opportunities, too, are available in the academic environment, such as the development and sharing of course content by faculty, for example, or their knowledge exchange with each other with respect to research and development in their respective fields of expertise. But the opportunities don't stop there.

There are any number of other areas in which your knowledge services construct can bring positive results. In your research and development work, for example, in your university press and other publications programmes, or in the work of the library and the library staff in providing instruction – both to students and to faculty – in education and training having to do with searching online scholarly databases, there is very strong potential for KM/knowledge services growth.

Other roles – closely related – can be found in the work of the Agricultural Resources Center and other collaborations. And even, sometimes, to the surprise of visitors, as I discovered in last week's trip to Machakos, where I was delighted to see the offices of the Kenya Institute of Professional Counseling in collaboration with Egerton University at the Susu Centre in Machakos.

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[10] Marshall, Edward M. *Transforming the way we work: the power of the collaborative workplace.* New York: American Management Association, 1995.

And what about KD/KS opportunities at the magnificent Egerton Castle, which I was fortunate enough to visit yesterday afternoon? It is a splendid asset for the university, and surely there must be ways to connect knowledge development and knowledge sharing with the goals of university management for this spectacular place.

You might also look for KD/KS opportunities in your work with university exhibitions and participation in national agricultural shows and student competitions – such as the Zane Africa Challenge – are further activities in which knowledge development and knowledge services can play a very positive and influential role.

So how can all of this take place? What advice shall I give you, to encourage you to bring KM/knowledge services into the academic and scientific research and development community and particularly as KM/knowledge services links to transformative research for sustainable development? Is there a mechanism that can help you, your institutions, and your individual subject and administrative departments evolve a knowledge culture?

I think there is. When we cut through the layers, once you have embarked on developing an institution-wide knowledge strategy, we become aware of one underlying theme to all that you must do. If you are going to succeed, you are going to have to deal with change, and I recommend that you begin your effort by thinking about change management. As leaders in your academic research communities, it is important that you take control of the change process, establishing a framework through which you will move to an institutional knowledge culture.

Developing Knowledge Strategy: Managing the Change. As a fundamental component of the management function, 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.

When the role of knowledge as an organizational asset is recognized and exploited and the successful implementation of a knowledge services solution leads to institutional success, we are in that desired state Kenneth J. Hatten and Stephen R. Rosenthal refer to with their version of the knowledge culture (which they describe with a slight semantic twist as the "knowing culture"). Hatten and Rosenthal urge individual knowledge workers – among whom we would include almost all people affiliated with the academy – to "prepare for change by increasing our awareness of what we do or do not know." In doing so, they become skilled in dealing with the two types of knowledge that enable that preparation: "the knowledge you need to boost your performance when you know your organizational objectives [and] the knowledge that will help you define new objectives and the strategies to pursue them."[11]

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

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[11] Hatten, Kenneth J., and Stephen R. Rosenthal. *Reaching for the knowledge edge: how the knowing corporation seeks, shares, and uses knowledge for strategic advantage*. New York, NY: Amacom/American Management Association 2001.

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*. Drucker describes change management and entrepreneurial thinking in a quotation that is almost custom-made for academic leaders and the institution's 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.[12]

It is a difficult and sometimes complicated affair, this "putting knowledge to work." And certainly stretching the concept into 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. To meet that challenge, smart institutional knowledge workers and their leaders in the institution 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 academic leaders with management responsibility), the best place to begin is with established change management principles. In our work in our company, we 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:

- *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).

- *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

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[12] Drucker, Peter F. *Managing in a time of great change*. New York, NY: Elsevier, 1997

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.

Rosabeth Moss Kanter, identified by many of us in knowledge services as one of the great change leaders in the management community, has her own "take" on change and change management. When asked how organizational leaders get past "the rhetoric of change," Kanter replied with characteristic directness, offering three key steps for managers and administrators:

- 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 put 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.[13]

Kanter's advice is particularly appropriate as institutional leaders 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, working with staff in 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.

A Change Management Strategy for Knowledge Services. When preparing the university 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 or "special" cast. As we pursue our discussions about how we will lead the change, the situations are very appealing,

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[13] Kanter, Rosabeth Moss. *The change masters.* New York: Touchstone, 1985. Also in "A conversation with Rosabeth Moss Kanter about leadership," by Donna J. Abernathy. *Training & development* 52 (7), July 1998.

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 re-structuring, or to demonstrate the potential value of a desired result (especially in the many pleasant intellectual discussions that will take place), bringing any change into an organization is going to be difficult. Hopefully concepts and ideas like those described in presentations like these 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 institutional management and the university's knowledge thought leaders truly desire to participate in the process of moving to a knowledge culture, and indeed, to lead the process (which they should do), there are steps they can take, and I invite you to consider principles of change management that my business partners Dale Stanley and Cindy Hill and I use with our clients.

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….

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.[14]

And from my own experience – especially recent experiences – I would add a final piece of advice: Listen to everyone. Bring as many people into the conversation as you can deal with. No secrets. No surprises. Listen to folks older and more experienced than you, listen (especially) to those younger and newer to the community in which you all work, and make it a point to listen to everyone in between – their views and suggestions are important (and valid).

And why do I suggest this? Because I see your work at the forefront of what has to be done to bring about a knowledge culture, in your own work and – if we are lucky – in society at large. You are the knowledge thought leaders, and you are positioned to create an environment in which knowledge management and knowledge services will bring practical and tangible benefits to your institution.

It's all part of the process of initiating a KM/knowledge services framework for a knowledge culture to support transformative research. Moving to this knowledge culture – and in such a critical subject area as sustainable development – is no small matter. I encourage you to take upon yourselves and your institutions a tone, a manner of speaking about what it is you are doing.

And I urge you to resist the temptation to shy away. Heed the words attributed to American architect Daniel H. Burnham, responsible for magnificent city planning designs (including the design of Canberra, Australia's splendid capital). Here's how Burnham inspires us: "Make no small plans. They have no magic to stir men's blood." Stir your blood, and that of your fellow thought leaders in the academic and scientific research and development community. Don't be tempted to "put it off" because there are other "pulls" on your time and energy. This is important. In fact, there are few initiatives you can undertake that will influence your success, lead to that organizational effectiveness we so desperately long for, as will be your success in building your knowledge culture, and in strengthening the knowledge culture you already have in place.

Go forward with your work. Bring knowledge management and knowledge services into the academic and research environment, and use sustainable development as your focus for moving to transformative research. You are doing so much good work, and with not too much effort and probably not a great deal of money, you are going to find yourself living and working and teaching and conducting transformative research in a knowledge culture. I urge you to go forward.

Thank you.

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[14] St. Clair, Guy and Dale R. Stanley. *Building the knowledge culture: the knowledge services effect*. New York: SMR International, 2009.