

The Knowledge in Knowledge Management Systems

A systemic point-of-view by Lynda Moulton LWM Technology Services

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LWM2 This evening I am going to talk about knowledge management, a business concept that goes back to the early 1900s when a professional association of librarians who served in corporations formed with the tag line, "putting knowledge to work." They did so using the processes and methodologies embodied in library and information science, combined with a sound business orientation and a firm grasp on the sciences underlying the work of their organizations. It was long a standard of these "special librarians" to have an undergraduate degree in a subject specialty, and a masters degree in library science in which they would learn about sources of specialized information, methods and means of indexing special

collections of internal and external resources, and practices for researching and evaluating specialized information on behalf of their constituents - always mindful of business goals and objectives.

Much later, in the 1970s, Peter Drucker picked up on the "knowledge" theme as a core fact of modern industry. I'll comment further as we go along.

Contrary to the myth perpetuated in the classic, Desk Set with Spencer Tracy and Katherine Hepburn, librarians have been at the forefront of efforts to leverage automation in information management. My advisor Dr. Bernie Sclessinger and Assist. Dean of the library school here at Southern was a research chemist who left bench science to become head of subject indexing at Chemical Abstracts, a publication using automated indexing as early as the late 50s. He insured that my education included systems analysis, automated indexing systems, and automation in libraries with a bit of Fortran programming in preparation for my career in corporate libraries. I was also among the first trained to do CA literature searching by computer (via acoustic coupler phone line at 90 baud).

I hope to give you an understanding of how necessarily intertwined are the fields of information science, business management, and computer science when talking about KM..

The Knowledge Organization

- KM Components & Related Topics
- The Organization
- Content
- Communities of Practice
- Operational Systems
- Products and Services
- Knowledge Workers
- Core Competencies

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KM Components Requiring IT Infrastructure Support

- Information/Content Journal, document, etc.
- Expertise Human resources
- Values Ideas that convey levels of worthiness
- Intellectual Capital Intellectual capital includes all business intellectual resources & assets including [Nermien Al-Ali] KM and Business Presentation or knowledge that can be converted to profit [Value-driven intellectual Capital. P. H. Sullivan]
- Intellectual Assets Codified, tangible, or physical descriptions of specific knowledge ...source of innovations that the firm commercializes [Patrick H. Sullivan]
- Intellectual Property Legally protected knowledge assets
- Business Processes/Methodologies Licensing, HR
- Management

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LWM3 As in most social sciences, it is harder to get agreement on how components of the discipline are defined than in the hard sciences. I won't attempt to get you to agree with any of those I might use here because there is nothing about KM that is written in stone - the experts rarely agree and the field is evolving. All I want is to give you an "idea" of what this discipline is about.

In fact, the most important idea that I would like to convey is that this field is intensely interdisciplinary. To be a CKO or KM expert, you must have a highly tuned sense of a lot of other disciplines, systems and functions in an organization. This is one reason I believe that those bent on "managing" knowledge with a specific software application, can't really succeed. You will see that human interactions and numerous other business processes must be part of the mix. Human judgments and evaluations are essential to implementation and adoption of the best KM practices. A collaborative approach is key. That is why, you don't see IT on this list. It is definitely a related and necessary discipline but is actually spread across these first tier components.

Briefly we have here: Information content - explicit forms of knowledge; expertise - commonly tacit undocumented knowledge; values of the organization and people in it are key to how knowledge assets are developed, used and granted their relative worthiness. We can't talk knowledge without including intellectual aspects of the modern organization. Intellectual capital really embodies it all: resources, skills, business relationships, processes, content and technologies used to manage it. More specifically, when we grant special value to specific knowledge resources by documenting it, such as the know-how or expertise that an individual has, that becomes an intellectual asset. Then, when that know-how is patented or copyrighted, it becomes intellectual property. Finally, we have business methodologies that an organization may use to further its goals (I.e. licensing as a business practice) and management practices in general as the discipline that binds all knowledge components together.

"Knowledge is a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of knowers. In organizations, it often becomes embedded not only in documents or repositories but also in organizational routines, processes, and norms." from Working Knowledge; How organizations manage what they know, by Thomas H. Davenport and Larry Prusak.

LWM4	After putting these components together, as a list of business topics that have the most connectedness to KM, I was
	anxious to find, in another experts writing a good workable definition of knowledge in the organization that includes them
	all.

From Tom Davenport, who is one of the most pragmatic practitioners in the field of KM and Larry Prusak with whom he collaborated on the book, Working Knowledge, we get this definition.

There are probably as many definitions of knowledge as there are KM experts, so I'll spare the world yet another and just let this speak for my idea of knowledge as a subject worthy of prime consideration in today's organization. Lynda Moulton, 8/26/2009

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In the 1973 management classic by Peter Drucker, Management: Tasks, responsibilities, practices, the author first speaks of "knowledge work - that is, the specific work of middle managers..." and "the knowledge organization" in which "... it becomes a top-management job to mobilize, to organize, to place, and to direct knowledge."

LWM5 Enter Peter Drucker. Scattered throughout his seminal 1973 work, Management, is the idea of the knowledge organization. For Drucker the middle manager was the knowledge worker, the individual who knew his workers, what they knew, what they did and needed to do and how to do it. He viewed the modern organization as one in which those at the top probably did not have first-hand knowledge or know-how about what all the parts of the enterprise were about. But he did state emphatically that it is top management's job to "mobilize, to organize, to place and to direct knowledge." This is still one of the key points for KM success. If there is not firm belief in and professional accountability assigned to those who are charged with knowledge management roles beginning at the top - good KM practices will never be accepted and routinely adopted. Practices like documenting, seeking, evaluating, codifying, and protecting knowledge resources must be imbued as the "way we do things here." In the best and most successful organizations I would say that KM is organic, part of the fabric without even necessarily being called by that name. It happens - the new employee is shown, taught and told how to process information for sharing, for accountability, for building the products and services on which an organization sustains itself.

Millennium Pharmaceuticals has a CEO who champions KM. He created a position KM Director, filled by Joe Horvath, whom I have heard speak about their KM initiatives, which I'll speak about later. When I asked him how they launched, funded and supported their ambitious program, he commented on the unbridled enthusiasm of the CEO for the efforts. The CEO expects KM initiatives to grow and expand, having total confidence that this is what protects, leverages and adds value to Millennium's intellectual assets.

Why the Organization Chart?



LWM6 Now, on to the business of contributing to, supporting, building and using systems of KM. Where does one begin? This is clearly a field where one can't, with flippness, say, "at the beginning." No organization exists for long without systems of KM developing, at the very least at the individual level. What I find most helpful in trying to advise an organization that wants to architect a new system of KM, is to do a knowledge audit (find out where all the pockets of knowledge are in the organization) and an information audit (find out what all the technologies and tools are that are supporting that knowledge). To do that I must have a framework from which to begin my detective work and the organization chart is the beginning point.

It is simple, gives me job titles, an idea of the scope of the organization and the work that is done in it. BUT - it is only a starting point because there will be so much more that I will discover in talking to people (and learning about how they do their jobs and who they interact with and what they use to do their jobs and what works and what is broken) that I will soon find that the organization chart is only a chart and not descriptive at all of anything that goes on in the organization. For our discussion, I am keeping it to the simple key areas of an industrial R&D company. This is simply for illustrating some aspects of KM in a typical company and in no way implies that this is how to structure a company.

From Peter Drucker, Management, 1973

A good deal of knowledge work will undoubtedly be organized on a strictly functional basis. A good deal will also be done by individuals who, in effect, are an "organizational component" by themselves.

Examining functional areas in any organization we will see great variety of explicit knowledge resources, both structured and unstructured **content**.

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LWM7 Again Drucker reminds us that the work of organizations is centered around functional areas. It is important for the knowledge manager to have some idea of the kinds of content that get clustered in each area.

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When I go into an organization - I go with the expectation that I might find certain kinds of content. This expectation defines my line of questioning - it is amazing how much the interviewee becomes aware of through my questions. It isn't that they don't know the content exists, they just never think of it as being part of their work flow or their own needs or those of their peers and subordinates. This is really one of the most rewarding aspects of what I do. Lynda Moulton, 8/26/2009



Typical Silos of Information/Data/Expertise/Knowledge Resources

Idea Records Project Plans Lab Ntebks. Correspond. **Project Rpts.** Pub. Papers Patent Filing. Patents. Eng. Draw. **Databases:** Test. CAD Analy. etc. Journals Books Gov. Docs. **Patents** Stat. DBs Res. DBs. Sci. DBs

Standardo

Compt. Intel. Market Ana. Prospects Presentations Customers Correspond. Promos. ------Exhibit. Info. Directories Ads. Campaigns Collateral Trade pubs. Lists - DBs

Employee Payroll Contracts Licenses Procedures AP/AR Tech. Man. ------Prod Support Directories

Directories Regulatory Legal

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LWM8 Here is a crude graphic to give you an idea of the scope of the simplest organization. It is not intended to be comprehensive - it is really just the skeleton of the types of content you'll find in any organization that has a hundred or more scientists and engineers. We are not going to debate what is missing or what should not be where it is shown here. It is simply illustrative of the amount of stuff that is around that, until quite recently was never on the radar screens of those who were responsible for building information systems.

So, let's just say we have four broad functional areas and within those groups we have silos of information. Much of it probably loosely organized in peoples offices or perhaps managed by a little departmental library, staffed by an overworked and under trained administrative assistant.

But, this is not just unconnected, unrelated stuff. It has value. Moreover its value can be greatly enhanced by being well organized and integrated and made accessible outside the functional area where it is found. Lynda Moulton, 8/26/2009

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Sample Content R & D

- Internal
 - Idea Records
 - Project Plans
 - Lab Notebooks
 - Correspondence
 - Project Reports
 - Patent Filings
 - Published Papers
 - Patents
 - Engineering Drawing
 - Databases:
 - Test Results CAD Analytical

- External
 - Journals (Primary, Secondary)
 - Books Tertiary
 - Government Documents
 - Patents
 - Statistical Databases
 - Research Databases
 - Scientific Databases
 - Standards
 - Other business specific

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LWM9 Let

Let's look at R&D - my favorite area because it is where I cut my teeth in the technical library field. Engineer has a new idea - a good patent manager will have insured that there is a process, escaped by no one, that records, date and time stamps, and notarizes the idea.

R &D Managers debate the idea and decide it has merit and commercial potential - a project plan is defined and work begins on the research and/or development needed to bring the idea to a point where it can evolve into a product. Research is recorded in laboratory notebooks, and summarized in periodic reports, perhaps commented on in internal or external correspondence with business partners. Meanwhile, external content is searched for similar work by competitors, including patents and published papers.

If the work progresses successfully, no competing products or processes are discovered, market & financial analysts determine commercial viability, a patent or patents may be filed, engineering drawings detailed and supporting documentation in the form of test results and analytical work is finalized, summarized and classified to round out the research and development of a new product.

I worked in a Union Carbide (now UCAR) lab, where this process flowed almost flawlessly, all the content components were seamlessly integrated by an overarching technical information group. But, after developing a database application in 1980 to support the integration of all these information resources in a single database, I leaned that few organizations are as disciplined about their intellectual asset management as Union Carbide. That is why I am now focused on helping companies organize and leverage intellectual assets.

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Sample Content Manufacturing/Distribution

- Internal
 - Engineering Drawings
 - Capital Plans
 - Test Results
 - Technical Manuals
 - Standards
 - Safety Sheets
 - Project Records
 - Inventory Reports
 - Correspondence

- External
 - Supplier's Catalogs
 - Standards
 - Equipment Manuals
 - Raw Materials Reference Manuals or Data Sheets

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LWM10 Lynda Moulton, 8/26/2009

LWM11 Let's just take a quick look at content you might expect to find in other parts of the organization.

Here we've moved on to the production phase of our new no-name product. Lynda Moulton, 8/26/2009

Sample Content Marketing/Sales

- Internal
 - Competitive Intelligence
 - Market Analysis
 - Prospects Contact Reports
 - Presentations
 - Customer
 Data/Demographics
 - Correspondence
 - Promotional Plan. Docs.

- External
 - Promotional Materials
 - Exhibit Information
 - Directories
 - Ads (Internal & External)
 - Campaigns
 - Sales Collateral
 - Trade publications
 - Lists Databases

LWM12 Meanwhile, the marketing people are out their generating their own kinds of plans for promotion, spying on the competition and gearing up for sales presentations with slick presentation materials. Lynda Moulton, 8/26/2009

LWM13

Sample Content Administration and Support Services

- Internal
 - Employee
 - Payroll
 - Contracts
 - Licenses
 - Procedures
 - Accounts/Payable & Receivable
 - P&Ls
 - Customer Databases

- External
 - Product Support Guides
 - Directories
 - Regulatory (CFR & Other Industry Specific)
 - Law Reporters
 - Annual Reports

LWM13 Finally, we have the backroom operations and administration keeping the whole enterprise up and running and looking forward to all the new accounts receivable and lots of new customers to support. Lynda Moulton, 8/26/2009

From Peter Drucker, Management, 1973

An increasing number of knowledge workers, however will have a "functional" home but do their work in a team with other knowledge workers from other functions and disciplines.

Functional Teams Working Together Become Communities of Practice.

LWM14 How does all this stuff get orchestrated? Drucker knows,

An increasing number of knowledge workers, however will have a "functional" home but do their work in a team with other knowledge workers from other functions and disciplines.

In the modern day language these teams working together are called communities of practice. These are not on most organization charts, they are truly tacit entities. Everyone knows instinctively that they exist but they are rarely codified. This means that they are one of the most under-considered corporate entities when plans for a knowledge architecture and supporting IT systems are developed.

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Communities of Practice



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LWM15 When business and systems relationships are made among these teams, they are too often afterthoughts. The systems interfaces may be great for one group but another group that needs access to some of the information, has to turn into pretzels on the keyboard to get to it. Reports can be produced that really reflect all that one functional unit needs to know while another group gets entirely too much but in cumbersome formats.

The knowledge architect, working in concert with the IT department and functional units, can anticipate, plan for, and design for these intersecting needs and interests.

I show here a slightly more granular level of functions involved in a scientific R&D process: scientists, engineers, managers, market analysts, and financial analysts. One community of practice is concerned with the Research Project. Another is concerned with New Product Development. Notice that I have the managers involved in both communities. Then we have two overhead functions, the research library (technical information group of my first position) and the human resources/payroll group. They service Lynda Moulton, 8/26/2009

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Other Functions that Form Communities of Practice



LWM16 Here are some other functional areas you might have in an organization. I show some overlapping to illustrate that there might be a natural working community of practice among some but not others. Lynda Moulton, 8/26/2009

Overlapping IT Operational Systems



LWM17 Through IT, organizations have sprouted other communities of practice. These are more explicit because they are forced into practice through the operation of software applications like SAP or more specific applications devoted exclusively to a function like sales lead tracking. In large companies more integrated and comprehensive products are the norm for minimizing redundancy of data, and improving the options for shared information. This type of integration helps to move information management closer to knowledge management because information is no longer in segregated buckets of data. Lynda Moulton, 8/26/2009

Public View - Organization's Products and Services



LWM18 Finally, there is the need through portals and client oriented content dissemination, to present selected organizational information to your customers. Some of the most important and Web-centric IT projects are now focused on this important area, where integration of practices and knowledge can increase efficiency dramatically. Lynda Moulton, 8/26/2009

BP Exploration Case Study

- Managing Director John Browne transformed the company into "a federation of assets" to promote *best and most adaptable local innovations that could be used elsewhere in the larger company.* [Working Knowledge. Davenport & Prusak]
- 18 month project called "Virtual Teamwork Program" to build a network of people

LWM19 This BP Exploration business transformation, in which I was peripherally involved, has been extremely successful. The company is now Talisman Exploration and virtual teamwork is well entrenched. I have watched, over a 20 year period, an adversarial relationship between the IT group and the technical information department, evolve into the closest of working relationships. When I last consulted there in 2001 with the technical information specialists, the IT person sat in on all the sessions at his request. He was completely engaged in what they were trying to accomplish and deliver to the internal staff. It was clearly a team relationship and the librarians were directing that particular initiative.

The library group was a very early adopter of Web technology among other automation resources to build a virtual knowledgebase through a corporate intranet. I remember this effort being well underway as early as 1996 - clearly an early adopter mentality existed at Talisman at that time. Selection of hardware and software components included: desktop videoconferencing equipment, multi-media email, application sharing, shared chalkboards, a document scanner, tools to record video clips, GroupWare, and a Web Browser. Getting exploration maps indexed was a key goal. The idea of technology as a tool, not an end in itself, was reinforced by the "coaching" program developed by the change management team....coaching meant not only 'how to' but 'what' and 'why'... the only failure was in the petrochemical group whose main interest was exchanging data - not knowledge.

The Knowledge Worker: Actions and Tools

- The Creator
- The User
- The Intermediary
- The Organizer
- The Infrastructure Manager

LWM20 Knowledge Workers must Work Collaboratively to insure the success of the knowledge organization. Communities of practice must be recognized and integrated into systems planning. Davenport and Prusak stress the point that "a significant commitment of time and effort is required to give group members enough shared knowledge and shared language to make sure that collaboration of different styles and ideas is positive..."

To begin the collaboration, I maintain that knowledge workers must have a clear idea of the knowledge competencies of each other - what role does each play in the knowledge managed enterprise, and what aspects of KM influence, affect, and aid the worker and what aspects does each worker control.

Here are the types of knowledge workers that I have most frequently encountered in my client operations. I am going to give you a quick run-down on what specific roles I see most frequently and saturate you with a real potpourri of classes of tools, tool company names, and product names.

You will also find many, many more products and classes of applications mentioned in the articles and on Web sites in the bibliography.



Knowledge Worker - Creator Scientist, Engineer, Consultant, Innovator/Inventor

- Actions
 - Investigates, explores, invents, discovers, analyses
 - Produces research results
 - Maintains logs, notes, sends emails
 - Writes papers, reports, documents
- KM Tools
 - Search engines, portals: Alta Vista, Google, FAST, Ovid
 - Research databases: knovel, CAS, European Patent
 <u>Community</u> for patents; Internal DBs
 - WPS, Email, DMS, Spreadsheets, CAD, etc.

LWM1 Lynda Moulton, 8/26/2009

LWM21 Most organizations have some functions that are creative or innovative but the most common are companies founded on science and engineering. In the years since Arthur D. Little was founded in the late 1800s, consulting firms have increased in number and scope. In theory they create and innovate for hire - although, more recently, management consulting firms may do little more than recycle work developed for others. Certainly, consultants, attorney's, systems integrators, financial analysts, and so on are knowledge intensive.

Whether they are inventing (making something totally new), discovering (a use for something that already exists) or innovating (a better way to manage your money) they are all creating knowledge.

To support that process of knowledge creation, of course, they need to backup their own expertise with further research.

The classifications of products, content and companies I have listed here is the tiniest taste of what is out there in the ether to support creative research.

Besides researching to create, the creator must document, massage, and manipulate his/er findings. For that WPS, email, doc. Management is required. Lynda Moulton, 8/26/2009

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Knowledge Worker - User Most of the Workforce

- Actions
 - Researches, creates, explores, discovers
 - Analyses, aggregates, synthesizes, interprets, applies
 - Summarizes, explains, defines, documents
- Tools
 - Internal databases
 - Any type of commercial database, search services, aggregators (Ovid)
 - Repositories of explicit internal & external knowledge
 - Repositories: Lotus Notes, Documentum, Office Suite, <u>SAP</u>

LWM22 Everyone is a knowledge user.

The machinist needs to consult catalogs to find a new cutter for his milling machine when a change is needed in a manufactured piece.

Accounts payable needs current conversion rates for international payments.

Sales people need product information, resources for travel planning, and trade publications to become conversant in the industries in which they operate.

Attorneys need law reporters, patent databases, regulatory documents, and so on.

Some need primarily internal information while others need access to vast quantities of external resources. Corporate intranet portals are becoming a common gateway to not only static Web pages but to internal and external databases, applications, and function specific information throughout the organization. As security improves, and interface design takes advantage of the latest technologies, the portal and a total corporate knowledgebase will be synonymous. Lynda Moulton, 8/26/2009

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Knowledge Worker - Intermediary Business Management & Information Science

- Actions
 - Investigates knowledge needs, audits
 - Searches, evaluates & analyzes, synthesizes
 - Facilitates knowledge collaboration/sharing
 - Records Management policies & practices
- Tools
 - Same as those used by knowledge creators
 - Collaboration tools: Placeware, <u>OpenCola</u>, Synergis Adept, OpenText/LiveLink, <u>TrueArc</u>
 - Digital Asset Management (DAM)
 - Knowledge mapping/Visualization: <u>Inxight</u>, Antarcti.ca, Spotfire

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LWM23 Professionals trained to do literature research or on-line searching are a great bargain. They spend hours doing searching and discovering how to dig deeper and wider for exhaustive results in their specialties. When an organization has a novel idea for a new drug or game or spinning reel, they must be sure that no patent has been file or received on the same design, or that it doesn't exist in some obscure publication as "prior art." Expert searchers save companies millions by insuring that planned research has not previously been done.

Knowledge intermediaries also help organizations in knowledge efficiency. When they are leverage and utilized, they can find you a fact in two minutes that you might find in a half day after you have interrupted five other people in your quest. Concentrating the search for published knowledge in one or two expert searchers is just plain good business. Intermediaries contribute to protecting and leveraging internal intellectual assets. I recently organized a meeting on IP management and secured a manager from Monsanto who has spoken at the Conference Board to speak on the process of segregating IP for a planned spin-off. As Mark Williams reported on the process codifying old material was particularly difficult - they ended up contracting with retirees to sort and classifying materials according to the products and processes that were being divided in the break-up. Perhaps this exercise forced Monsanto to recognize "the importance of evaluating and interpreting its knowledge capital. An unedited repository of intellectual material is of little value to an organization." [Davenport & Prusak]

When businesses fail to catalog the recorded results of R & D, when they lose financial records, when they fail to implement and enforce policies around retaining documented business practices they are at substantial risk, both legally and financially. Records management is a discipline and has rules that must be followed. Again, sound business and sound knowledge management.

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Knowledge Worker - Organizer Information Scientist

- Actions
 - Builds categorization systems, indexes
 - Investigates semantic relationships
 - Builds thesauri, taxonomies, lexicons
 - Builds knowledge architectures, database designs, data normalization & conversion
- Tools
 - Taxonomy: Autonomy, Applied Semantics, BiblioTech PRO, Monohomie, Quiver (and others), Semio, SemanTX, TopicalNet (LightSpeed), Visual Thesaurus
 - Database Development: DB/TextWorks, <u>BiblioTech PRO</u>, Verity, Filenet, <u>Progress (sample application)</u>, Oracle, Lotus Notes, <u>Semantic Web</u>

LWM24 You need training, expertise about the business, and methodological frameworks to organize concepts, ideas, and content. You also need to know your audience. This is why indexing is hard. If we had more time I would have done an exercise to illustrate that no two of you would apply the same index terms to even the simplest journal article. Writers use different language to express the same concept - that's what makes it so hard to find exactly what you want in a string based full text search.

There are numerous professional tools that help professionals structure, unstructured data by controlled terminology, so that all material on a specific subject end up under the same category. You probably appreciate that the phone company has recently added other suggestions for variant name spellings, or names that sound like the one you've looked up. Those cross-references have a counterpart in search systems call thesaurus relationships. I know when I look in Engineering Index that cell will probably refer to an electrochemical device but in Biological Abstracts to an organism and in Readers' Guide to Periodical Literature it might be a prison. But as an indexer, I want to chose unambiguous but familiar language for my audience and also give them alternatives when they don't think to look something up by the assigned language. New search engines work on ways to direct you to alternatives you may not have thought of.

Knowledge Worker - Infrastructure Manager Computer Scientist

- Actions
 - Designs Computing Architecture
 - Evaluates Products & Services
 - Build Networks and Infrastructure for telecommunications & computing
 - Supports Software Tool & Application Selection, Implementation, Maintenance
- Tools
 - Research Sources and Services
 - All of the above plus ERP, CAD, Modeling

LWM25 How do all of these knowledge workers improve on what they are doing; where can they gain efficiency, avoid redundancy, get better quality in data analysis, improve reports, find what they need faster. The IT infrastructure with ever improving computing hardware, telecommunications, wireless options, highly specialized software applications, expert systems, groupware, database technology, search engines, Web interfaces is glue for the knowledge organization. But it will only hold when the people in charge of the infrastructure understand needs, not just data or information needs but human needs, knowledge needs. This comes from knowing and in this case becoming part of the teams and communities of practice. Like the knowledge intermediary and the knowledge organizer, IT has to achieve and sustain close contact with the communities. It also has to work closely with intermediaries and organizer because these people have lots of insights into how to organize knowledge resources and how it will need to be retrieved. They have been designing databases for decades before computer science was around. Millennium case study: using data mining techniques and intelligent query filters with knowledge intermediaries playing a role in building a knowledgebase. They refer to knowledge building (KB) as the union of public literature and Millennium findings (from R&D). Only human beings can find interesting things to go into the knowledgebase. They do tons of interviewing to learn what is needed. They have a librarian to do the indexing and science experts to scavenge the functions for internal content for the system. The KM Director, Joe Horvath, came from IBM but when you hear him speak the language of KM, its about human interactions around content. The IT component is clearly playing a supporting role.

The Knowledge/IT Connection

We believe that IT is the servant of the KM processes, not the other way around." Joe Firestone

[From] Bartlett, Jeffrey. *Certifying KM professionals*. <u>Knowledge management magazine</u>. Aug., 2001; p. 16 **LWM26** After I sold my software company but before I decided to leave the software industry to focus on knowledge management, I ran across this quotation that I though really summed up the tension I had seen in so many customer sites.

Little did I know that I would end up in knowledge management where I frequently come across writings by Joe Firestone.

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KMPto The Knowledge and Innovation Management Professional Society 14 Learning Objectives for KM

http://www.kmpro.org/learnedobj.cfm#

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LWM27 Here is a link to the 14 learning objectives for one program of training for KM professionals. There has been some consolidation of training options in the field. KMPro has an international society of about 2,000 and runs a successful program out of Washington, in collaboration with Masters programs at Geo. Washington and Geo. Mason universities.

Originally, this group was very government centric but is evolving to be more business inclusive. I joined to help activate a New England Chapter which is slowly coming together. We've teamed up with an existing group called Boston KM Forum and will jointly sponsor a meeting in April for which I have a meeting summary. It will give you an idea of the type of practical activities that come out of KM.

I want to just hit the highlights of KM competencies for any of you who may find that knowledge management is one of the more interesting components of business management - as I obviously do. Lynda Moulton, 8/26/2009

Core Competencies

- Understands Value of Knowledge to the Business and Applies it Accordingly
- Uses Appropriate Strategies and Processes for Explicit & Tacit Knowledge Transfer
- Applies Appropriate IT to Knowledge
 Management Practices
- Understands and Contributes to Knowledge Creation, Sharing and Reuse
- Adapts KM to Various Learning Styles and Behaviors
- Uses Systems Thinking in Implementing KM
- Recognizes & Builds Communities of Practice

Continued Competencies

- Designs & Develops Knowledge Architectures to Sustain Flow of Knowledge
- Applies Organizational Analysis, Formulates Taxonomies, Performs Knowledge Audits
- Adopts and Applies Best Practices
- Has and Applies Expertise in Strategies for Knowledge, Information, Document, Records, and Data Management
- Understands Global and Economic Importance of Knowledge-based Organization Development
- Ability to Manage Change and Complex Knowledge Initiatives and Projects

The End

Thank You LWM Technology Services www.lwmtechnology.com for more on KM