KEY ELEMENTS OF A KNOWLEDGE ARCHITECTURE INCLUDE MORE THAN IT

While IT professionals are the most likely to end up with responsibility for design of the organization's knowledge architecture, they may be neglecting elements that are outside of the automation arena. Job postings for knowledge management system architecture specialties show requirements for programming and computer technology expertise with little or no emphasis on knowledge resource management expertise. By underscoring that there are vital areas lying outside the scope of IT or computer science training, and examining the required expertise, we can begin to define how it should be incorporated into KM architecture design and process implementation. There is evidence that organizational leaders have a belief that they should be implementing a knowledge management system, but it is not happening in many institutions. This may simply be a matter of who is doing the planning and attempting the execution.

A survey of current job openings for knowledge management professionals to do "systems analysis, system design, development…," reveals a lot about how organizations think about the personnel they want to hire, and what their skills and competencies might be. Indirectly, these notices also convey a faulty sense of what a knowledge management system really is, by emphasizing a network of hardware and software components designed to capture information and convert it into knowledge.

Take for example the following:

- Most job postings that used the term "knowledge management" were found on Web sites that focus on IT careers or under a category "Information Technology."
- The majority of jobs required a computer science or "related" degree.
- Among the types of requirements were having expertise in products such as Documentum, PTC/Windchill, Lotus Notes, Microsoft Project, OpenText, WebLogic Server, ColdFusion, Java, Oracle, WebCT, Quantum Portal, and so on.

In the same job descriptions there were required additionally, strong written and verbal communications skills, documentation experience, ability to chart strategies, broad business perspectives, high service orientation, and ability to translate technology for business audiences. Besides the fact that these skills are difficult to find in combination with the requisite technical experience, it is unrealistic in most any organization to expect that employees who are writing Java code or building Oracle applications will also be writing documentation, charting KM strategies, and making management level presentations. It is realistic to seek project leaders who have familiarity and conversance in specific technologies, while being able leaders, communicators, and strategists. But these job openings say more about approaches that are destined to fail, than about what they want to achieve.

First, when a position has been created to design, establish plans, strategize infrastructure and then gives very specific product knowledge requirements, we understand that decisions have already been made that may or may not be advisable. A new employee expecting to systematically research, analyze, plan and design a system may find that technological choices already in place severely constrain new and innovative designs.

Second, by omitting some rather obvious competencies, the project is likely to be all about technology products, missing completely the human skills and expertise required to build and implement the best KM processes. By placing expectation on a technologist who has confidence in the ill-defined field of "content management" to carry him/her through to a good solution, the KM plan will fail. Technologists should not be making choices about what content will reside in the system; furthermore, there is significant work to be done by others in establishing those choices before any technology is selected or deployed.

The jobs one must first staff to ramp up a KM project involve decision-making about the content of the databases, and data repositories, and design of the structures that will define where the data originated, who its intended users are, and how it will be classified and categorized. The competencies and expertise needed for this type of architectural judgment on the data side is precisely what moves content from disjointed documents, memos and reports into the realm of the knowledge base. The content then has potential to be the foundation of a true knowledge architecture. There is no requirement for these designers and decision makers to have a knowledge of Oracle, Visual Basic, or MS-SQL Server. There is however, a need for strong investigative and analytical skills, knowledge of the industry in the context of the organization being served, and, most important, a deep understanding of organizational culture.

Let's take each of these skill sets and examine why it is needed, then formulate the ideal composite knowledge architect.

INVESTIGATIVE AND ANALYTICAL SKILLS

Designing and implementing a knowledge architecture first requires a complete and comprehensive inventory of organizational knowledge. It takes special expertise to conduct the inventory or audit. Knowing the forms of knowledge assets and resources to seek, where they are likely to be found and how to find them requires high quality communication skills and a deep understanding of organizational behaviors and structures. By identifying key people in the organization and asking them the right questions, the investigator is likely to build a more comprehensive inventory of knowledge for consideration, than a computer scientist.

Being able to use the gathered information effectively means also having analytical skills. Any investigation is likely to be iterative in nature to achieve depth in scope. As the investigation proceeds, analysis of facts found and information gathered must begin. This will undoubtedly reveal the need for further investigation. Take for example a simple audit in which it is revealed that a defense contractor has a technical documents repository for government documents, which will form some of the content for the knowledge base. As auditors analyze materials and make decisions about document storage and access, they find no technical reports produced internally. This leads to further investigation to discover who and what controls that material. And so, the inventory of potential content resources continues. Perhaps you are beginning to realize how foolish it would be to have your Java expert conducting this research.

INDUSTRY EXPERTISE AND UNDERSTANDING ORGANIZATIONAL MANDATES

Each industry has its own language, its own methods of reporting and disseminating information. Government regulations pervade some industries; academic institutions have significant influence on others. These differences should be understood by the information auditor, whether an outside consultant or internal person. At the outset, a thorough review of the organization chart will help

the investigator to understand the potential connections among various business units and how information might already be flowing and where knowledge flow paths can or should exist.

Of particular importance is the need for a clear understanding of who is driving the KM initiative at the highest level, and what the expectations are. Strive to assure that there is a conviction by top management that improved KM is an organizational necessity. If it is possible to interview top management and probe for their perspectives, beliefs and expectations, it must be done. A good investigator will take the opportunity to provide insight into the benefits that should come from a well-executed and well-supported plan. It is this individual who can make the business case and should have the ability to do it effectively.

UNDERSTANDING ORGANIZATIONAL CULTURE

Understanding an organization's culture has two benefits. It will help the knowledge auditor find content and place it into the appropriate context. It will also help the architect clearly articulate design elements of database building, retrieval and knowledge process flow that will or will not work. This is where a bias toward a particular technology can genuinely interfere. Having an information specialist who can relate and communicate to the human factors and cultural workings of the organization is vital.

THE ARCHITECTURE SCHEME AND TEAM

Elsewhere in LWM Technology writings, we emphasize that Knowledge Management is a process not a piece of technology or series of technological products. When an organization commits itself to KM for organizational gain and benefit, as already stated, there must be a solid conviction at the top that it will bring a result. Management should have a target result in mind, ideally a series of results or outcomes. The other aspect of a KM initiative is that it will not have an end - it is no different than implementing a manufacturing operation. It might change but it isn't expected to finish.

To realistically meet management goals a team approach must be contemplated; it must also evolve. Until the scope of the defining knowledge content is discovered, analyzed and described, it is premature to begin putting technologies into place. The first worker on the project must be a leader who will oversee everything from early investigation to final implementation. We will call this person the Knowledge Architect to whom we will assign the following requisite competencies:

- Organizational and cultural understanding
- Expertise in knowledge resource management methodologies
- Superb communication skills and instinct for appropriate communication methods
- Educational spirit
- Systems analysis
- Understanding of and currency in available technologies (software and hardware) but not necessarily skilled in implementation or support of any one technology
- Ability to research, interview and map key knowledge influencers, knowledge producers and knowledge users in the organization
- Expository and presentation acuity to define and present knowledge innovation architecture necessary to meet organizational goals

SUMMARY

Knowledge architecture is a human resources issue rather than a technological problem. Even the simplest business models and small organizations can benefit from good KM practices through the insights, competencies, and planning of a good knowledge architect. With strong buy-in from top management and the corporate will to make KM fundamental to corporate culture, the IT component will become an appropriate complementary partner in building a successful process. - Lynda W. Moulton

RELATED READINGS OF INTEREST

Adams, Katherine. Peak performance; CKOs contribute to organizational success through effective knowledge leadership. Intelligent KM 10/24/2001 3p.

Davenport, Thomas, H. Working Knowledge: how organizations manage what they know, by Thomas H. Davenport and Laurence Prusak. Harvard Business School, Boston. 2000. 199p.

Delic, Kemal A. Serving Knowledge: Seven insights about knowledge management in the IT service industry. Intelligent KM 08/12/2002 2p.

Genusa, Angela. RX for learning; why Tufts' health sciences database earns honors. CIO, 02/01/2001. 6p.

Srikantaiah, T. Kanti, ed. Knowledge management for the information professional/for ASIS by edited by T. Kanti Srikantaiah and Michael E.D. Koenig. Information Today, 2000. 598p.

> Background and issues, creating a culture of learning and knowledge sharing in the organization, tools, application and strategy. A substantive work on all the areas of knowledge management with consideration given to the roles of libraries in the field.