

Viewpoint

Creating a Successful Knowledge Management System

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Effective knowledge management is an area that we at Arthur D. Little see as critical to the ongoing success of our firm. After all, our knowledge and experience is our „product.“

Today we have over 3,000 staff members spread across offices and laboratories in more than 50 cities around the globe. We want every one of those staff members, wherever he or she may be in the world, to have instant access to the knowledge, skills, and experience of 2,999 others. Such access means that the best of our corporate knowledge must be available and applied to the needs of our clients and our company. It ensures that the right information is available to the right people, in the right places, at the right times, and that our individual knowledge elements – which are some of our most important assets – are being leveraged and multiplied in value.

Since we cannot provide the links among our 3,000 staff members physically, we have to build them virtually. Current technology has allowed us to do this using a state-of-the-art web-enabled system. Our information system environment, known as the ‘ADL Link,‘ is designed to connect people worldwide for Learning, Information, and Knowledge sharing. (For the technically inclined, the ADL Link is a Lotus Notes™ application hosted on a series of Domino™ servers and available to staff members via Netscape™ browsers through our global wide-area network.)

The content of our knowledge management system includes the key elements of our knowledge capital. We have information on our staff, which improves our ability to identify people with needed skills and knowledge. We have information on our clients, which helps us to support and service them. We have information on our methodologies and tools, which allows us to deliver consistent service in an efficient and effective manner. And we have information on our practices and groups, which keeps everyone up-to-date, even when they get to see one another only infrequently.

We learned several years ago, however, that the computer system was but one element in a broad initiative to maximize the potential of our knowledge resources. In addition to the hardware/software, we had to concern ourselves with issues of content, culture, and process. In fact, technology provided only about 20 percent of our overall solution.

To achieve our objectives, we have had to manage the process of creating, capturing, synthesizing, and disseminating knowledge derived from multiple sources. At Arthur D. Little, we think of knowledge management as a funnel, with myriad knowledge sources entering at the top, going through a process of synthesis, and resulting in a whole that is greater than the sum of its parts. Coming out the bottom are clear benefits to the firm, including the ability to provide low-cost high-quality service, faster response to our customers, and new ideas.

From our experience assessing, planning, pilot testing, and implementing our knowledge management system, we have identified three factors that have contributed most to our achievements in knowledge management: ensuring vision and alignment, managing four domains, and creating an effective plan. While every organization must find the keys to its own success, I believe that these three factors will be present in virtually every list.

Ensuring Vision and Alignment

In many ways, we have found that managing knowledge is no different from managing other aspects of our organization. First, there must be a vision, one that is built on and linked to the objectives and strategies of the organization. Second, people must be aligned with that vision. If the vision is sufficiently strong and credible, alignment will be a natural result. And, third, the alignment must be from the top down and all across the organization.

To create our vision and ensure strategic linkage, we empowered two cross-organizational task forces composed of senior leaders in our practices and our information services areas – people who understood our culture and corporate direction – to consider the issue of knowledge management and determine the appropriate direction for the firm in this area. The task forces worked to understand what knowledge management was all about and how it was evolving in the world (especially in the world of consulting) and to evaluate its importance in helping the firm meet its strategic goals. The task forces derived a vision for knowledge management that is still operative across the firm.

We determined that it would be critical that senior management was in agreement – not just in consensus mode. To ensure that the senior leaders would provide the ongoing support the program would need, they had to be fully enrolled in the vision. Through individual and group meetings with the senior leaders, we communicated the task force’s vision and ensured that they understood it and aligned with it. Furthermore, we continually make

sure that the leaders remain truly on board.

Aligning staff with the vision was a relatively simple task. The vision and messages around it are simple, clear, and obvious to our staff members. A communication program that included oral presentations and articles in our corporate newsletter served this purpose well.

Managing Four Domains

Managing knowledge is a multidimensional process. It requires the effective concurrent management of four domains: content, culture, process, and infrastructure.

Content. At the outset, we had to identify all our knowledge elements and understand the relative importance of each element to individuals, groups, and our corporate objectives. This understanding was critical if we were to plan and prioritize effectively. It was also important for us to understand the context for the different knowledge elements – where and how they were used or could be used. These understandings were developed through the work of the two task forces discussed above.

Finally, once the system was up and running, it became critical for us to monitor content – to know what content is used, by whom, how, and to what advantage. To leverage knowledge to the fullest extent possible, we obviously must refresh old content and add new content over time. In this area, we decided to treat our knowledge management system as if it were a public web site, like Amazon.com or L.L. Bean. We established a system to track individuals' use and experience with the ADL Link at a very detailed level and then to marry those data with the demographic information we have on each user of the Link.

As a result, we are able to see patterns of usage and analyze them in light of the characteristics of the people using the system. The combined data helps us answer several key questions:

- What content is being used and by whom?
- Would it be valuable to provide additional, similar content to these people?
- Are there other people who should be using such content but are not?
- How can we „advertise“ and leverage this content to those additional potential users?
- Is there content that we believe to be valuable that is not being used at all?
- Can we determine why and correct the problem?
- What content, after all attempts to leverage it, remains unused and hence subject to deletion?

Culture. Every organization has a set of cultural realities that act as barriers or enablers for knowledge management. It has been critical for us to understand our own cultural realities and to take them into account. For example, in our case, we are driven by what we call „business impact“ toward selling our services and keeping our people billable. In the end, that focus does not leave a lot of time for knowledge management.

What we have done in response is to identify our cultural realities, name them, keep them out in front of people, and use a compelling vision to say that not only do we have to succeed in spite of those realities, but by managing knowledge well, we will actively support them. This linkage of knowledge management directly to our culture and values is critical.

Process. The process domain exists at several levels. First is the process by which we manage knowledge – how we capture, evaluate, cleanse, store, provide, and use it. We assessed and diagrammed this process to ensure that we understood how it functioned, and then we worked to modify and enhance it to bring it into alignment with our future vision.

Process also includes roles. In our case we designed new roles within our practices that we believe are critical to focus people's attention on performing the processes of knowledge management. Note that these are roles, not jobs; some of our consultants, analysts, and information specialists who perform client-facing roles were expected to restructure their workloads and perform the new, knowledge management roles, as well.

The two primary roles within the practices are those of Knowledge Advocate and Knowledge Steward. The Knowledge Advocate is the champion for knowledge management within a practice, becoming involved at key times to help ensure success. The Knowledge Steward (there can be more than one) has operational responsibility for knowledge management within a practice. These individuals execute knowledge management tasks and oversee the virtual knowledge management process. Since they cannot do all of the work themselves, they involve other people in their practices, as well. Finally, these individuals work to establish a community of interest among their peers to advance the cause of knowledge management across ADL. These roles have formal expectations associated with them that have become a standard part of the evaluation process for the people who perform them.

Third, there are the processes by which we govern our knowledge management effort itself. We established guiding principles that cover both implementation and ongoing operation. These principles allow geographically dispersed groups to function pseudo-independently, yet ensure that their actions are aligned with our vision and objectives for knowledge management. We also put into place a set of corporate roles:

- A Global Director of Knowledge Management, who is responsible for the design, implementation, and overall operation of our knowledge management efforts
- Knowledge Coordinators, who coach, coax, cajole, and coerce Knowledge Stewards and practice leadership groups to make continued progress toward our objectives
- A Link Master and a Web Publishing Specialist, who manage our Domino/Web publishing activities

Infrastructure. The fourth domain we had to manage is the infrastructure. This is where the automation aspects of knowledge management reside – that is, where the ADL Link sits. And while computer systems are a requirement for us, they are only one element in the equation. Other infrastructure elements, such as teaching, training, and coaching – and support in general – have been critical in ensuring that our computer applications and digital repository are used effectively. The bottom line here is that while technology is critical for effective knowledge management, it is only about 20 percent of the challenge.

As for the systems themselves, we adopted a somewhat radical approach to their development. Over the past decade, with the introduction of techniques such as „rapid application development,“ system development cycles have gone from years down to months. In the case of the ADL Link, we pushed these techniques to the extreme: we add new functionality to our infrastructure on a monthly basis.

This approach has been based on the nature of the technology we are using. In Web development, technology introductions have occurred in what are called „Internet years“ – four-month periods in which we see the type of full product development cycle that used to take a year to accomplish. With technology cycles occurring three times faster than previously, we decided to move to a „supersonic“ application development approach in which „time-boxing“ and „minimalism“ are our standard techniques. We release monthly, and then go back and enhance our applications a month or two later. Also, whenever possible, we buy and employ the latest technology rather than try to develop it ourselves.

Perhaps the most important challenge in knowledge management is to manage and maintain a multidimensional perspective, focusing on all four domains – content, culture, process, and infrastructure – at the same time. Think about it: If an organization does an exemplary job in managing any three of these domains, yet fails in the fourth, the entire program will fail. I dare say we have not been „exemplary“ in each of these four domains, but I contend that maintaining a persistent and unshakable focus on all four domains has ensured our success. %u might even say that we purposely have tried not to be exemplary in each because doing all four reasonably well is far more important and beneficial than trying to do each perfectly and coming up short on one or two.

Creating an Effective Plan

While understanding and focusing on the four domains (content, culture, process, and infrastructure) was important, it was not sufficient. We found that we needed a really good plan of attack.

We had to make many decisions, including:

- Which knowledge elements to start with?
- What to automate first?
- What platforms to use?
- What roles and governance process to establish?

Here too we have taken a nonstandard approach. We did not try to develop a top-down, three-to-five-year implementation plan. With the pace of technology change and the rapid and ongoing change in our users' understanding of their needs and of the potential of knowledge management, a standard planning approach would not work.

Instead, we outlined a long list of significant initiatives (more than could be completed in a year), prioritized them, and took to working on the highest-priority ones first. At the top of the list was the need for an extendible architecture for our systems, one that would provide an underlying framework that would accommodate the rapid changes occurring around us. After that, we embarked on the applications and process changes, with the highest-priority initiatives coming first.

Each month, we planned our activities for the next two months into the future. Twice a year we revisit the initiatives, recasting, reshaping, and re-prioritizing them in light of the current reality, in a chaotic environment, short

time cycles and frequent replanning are critical elements of success.

Our plan also included a phased roll-out of our new roles and processes across the organization. In the rollout, we worked with individual practices to develop the optimal implementation plan for each practice. In our discussions with Practice Leaders, Knowledge Stewards, and Knowledge Advocates, we helped them prioritize their efforts.

Setting priorities for knowledge management follows the pattern of priority setting for most management initiatives. The answers to several, basic questions provide the needed input:

- What is the need?
- Where is the benefit?
- What can be leveraged?
- What resources are available?

We applied these questions and answers across three dimensions:

- *Breadth vs. depth* – should a practice address all knowledge elements at a high level, or capture one or two in depth?
- *Looking back versus going forward* – should a practice capture its historical knowledge or start now and capture going forward?
- *Incremental vs. big bang* – should a practice plan to address its knowledge needs in stages over time, or should it make a major, concerted effort to put a repository into place in a short time?

Practices placed themselves at different points along these dimensions, determining what they did, how they did it, and when. Note that these decisions were made first across all content types, and then again within each type.

A Never-Ending Effort

Our efforts in knowledge management will never be completed. Such is the nature of knowledge. The ADL Link is not finished – nor will it ever be. We have a facility in place for capturing, storing, and accessing knowledge of various types. Our plan is to continually make that facility better in terms of ease of use, search capabilities, etc. Also, new tools and new Internet developments (such as active support of collaborative, team-based work) and new content types (such as sophisticated benchmark databases) will push the ADL Link to evolve for the foreseeable future.

So, what are we doing now? We are working to build an infrastructure to support today – and, more important, to be ready for tomorrow. We are actively researching tools that we think we will need in the next year or so. And, one last time, in everything we do, we are trying to maintain a focus on our four critical domains – all four, all the time.

We are convinced that managing knowledge effectively will deliver improved top- and bottom-line performance for our organization. It allows us to make the knowledge held by any individual available to all of us – and to do that easily, globally, and fast. Our program is creating an environment in which people are ready and willing to contribute knowledge – because in doing so they will benefit themselves, our clients, and the firm as a whole.

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