

Planning for Knowledge Management

How your company can benefit from using the right information at the right time

by

William Shockley III

WHERE IS THE INFORMATION THAT WILL help me make the best informed decision? It's got to be around here someplace." How many times have we uttered that lament?

Knowledge management (KM) or intellectual capital is one of the latest techniques for improvement adopted by industry. It has been discussed more and more often in academic and industrial literature. Previously published articles in *Quality Progress* (for example, Larry Todd Wilson and Diane Asay, "Putting Quality in Knowledge Management," January 1999, p. 25) point to the need for organizations to develop and utilize KM in order to survive.

KM may be defined as the collective knowledge (including experience, skills, data and information) of an organization. It includes knowledge that resides internally as well as knowledge selectively acquired from external sources for improvement of the organization. Arian Ward provides an excellent

categorization of the internal and external factors that compose KM.¹ (Refer to sidebar, "Questions to Ask in Retrospect") Knowledge may range from ways of improving employees' knowledge of a process in order to improve cycle times to a study of the best practices of a specific industry.

Knowledge management is more than collecting information and feeding it into a computer database or Web site. Proper KM ensures that individuals at all levels of an organization have access to the information they need to accomplish their own tasks while also helping to fulfill the organization's overall goals.

KM may be as simple as keeping a list of recognized experts on hand or communicating with one

to find the best answer. KM is the ability to provide, within a relatively quick time frame, the information that enables anyone in the organization to make the best informed decision, whether it be about market conditions, a product or service, a process, a competitor's planned action or some other matter critical to the company's success.



Organizations and individuals often collect more information than they need for making decisions. They tend to amass information that is easy to collect and, in many cases, it may be of little use unless properly analyzed. Information that would be useful to the organization (such as the number of customers that fail to return because of poor service or inferior quality) is typically not collected because of the difficulty involved in collecting it. KM makes this type of data collection possible. The information must be gathered and presented in a format that helps the user make significant gains in understanding.

For a moment, consider hockey as an analogy. During a hockey game, a goalie provides critical information by slapping the ice with his stick to warn team members that their current situation is going to change (a member of the opposite team is leaving the penalty box). With this knowledge the team is able to modify its strategy while attempting to adjust to the changing environment.

Organizations can and must react to changes in environment the same way—through the exchange of information. For example, a salesperson visiting a customer may pick up on the customer’s future need for a product that does not exist. This information should be conveyed by the salesperson to the company’s research and development department. It was this type of information that helped launch 3M’s highly successful Post-It.

KM should not be viewed as a new stand-alone management strategy to replace reengineering, quality or the team approach. KM provides the organization with another tool for improving performance by enhancing personnel’s access to relevant and timely information.

KM utilizes aspects of change management, bench-

marking and other management techniques. The team concept brings individuals together to resolve an issue. With KM, individuals can contribute expertise without being specifically assigned to a group. Also, whereas reengineering seeks to improve a process or develop a group into a more efficient unit through restructuring, KM may assist before, during and after restructuring. KM is a fluid process that continues to evolve as more information and knowledge are gathered and processed.

This article seeks to lay out general guidelines for developing and implementing the KM journey in an organization. It does not provide a specific checklist because each organization must carefully tailor the design and application to its own needs. Although many articles discuss the need for and the benefits of implementing KM, there is very little written on how to begin the journey. It is important to note that once begun, it cannot be terminated without catastrophic results to the organization. As with any other serious endeavor, the journey should be undertaken only after extensive planning and with feedback from all levels of the organization during implementation.

Is the present culture ready for knowledge management?

Before an organization can begin to implement KM, its culture must actively support the collection and dissemination of information and the use of knowledge. The culture must foster trust, active leadership and sharing, and it must acknowledge that collecting and using knowledge takes time.

A climate of trust is critical and must be nurtured in an organization that plans to initiate KM. People may be asked to give up carefully collected and hidden information. They may be reluctant to give up information that resulted in promotion. Leaders must

TABLE 1 Starting Point for Organizational Knowledge (Ward, 1998)

Internal knowledge	External knowledge	Employee knowledge
<ul style="list-style-type: none"> • Culture, history of the company • Strategic direction—corporate and divisional • Organizations, partnerships and other formal relationships • Communities of practice, communities of interest, networks and informal relationships • Individual people—who is an expert in what • Processes • Products, services • Systems, tools • Patents, technologies • Written and unwritten rules • Where these are located; how to find or access them • How to use or apply them—how to get things done • How to succeed 	<ul style="list-style-type: none"> • Customers, markets, needs, wants, activity in the marketplace • Competitors, markets, activity, known weaknesses and strengths • Laws or regulations that impact the organization • Changes in technology—known and planned • Suppliers and changes—planned and potential • Global changes 	<ul style="list-style-type: none"> • Language and known cultural experiences • Interests, other employment experiences • Training and education • Professional affiliations and memberships

provide the assurance that once personnel furnish information they will not be terminated.

Underscoring the importance of trust in an organization, Robert Hiebeler provides insight into Hewlett Packard's operations and the environment that senior leadership supported.² Business managers provided employees the freedom to take risks without fear of punishment, and they provided support for employees who introduced ideas that did not always work. If people are free to make some mistakes without punishment, they are much more likely to pass on information that will keep others from repeating those mistakes. John Cleese notes that we need to lose our inhibitions and gain the confidence that will allow us to contribute spontaneously to the circumstances.³ To do that we must lose our fear of making mistakes.

To create the culture required to support effective KM, active leadership is also required. In a review of Shell Oil, Barb Cole-Gomolski identifies two specific things upper management must do.⁴ The first is to develop a reward or incentive process that encourages people to make the transition from knowledge-hoarding to knowledge-sharing. The second is to develop a broad communication program to explain the need for knowledge management, the objectives and strategy that it supports and how it applies to each person.

David Stamps also emphasizes how critical it is for leaders to encourage employees to share and use information.⁵ Stamps says that the people issue is more important than the technology used to capture the data.

H. Saint-Onge describes the emphasis of Canadian Imperial Bank of Commerce's leadership during KM's implementation.⁶ Keeping the organization focused on its competitive advantage is critical. If the company focuses on the wrong areas, then its resources are diluted. Leaders must motivate the organization by identifying the target frequently, personally and completely. Unless each person knows where he or she is going, the organization is left with each person doing his or her best, a situation Deming often referred to as insufficient.⁷ While directing the effort and clearly identifying the target are necessary, leaders must allow for employees' self-esteem to also be enhanced.

To implement KM, an organization's culture must foster a means of sharing. Organizations tend to share successes to a limited extent. Successes are identified in general terms, but the who, what, where, when and how are not often discussed. Often these secrets of success are kept from the people in the organization itself. Why wouldn't an organization want to replicate these successes on a wider scale?

Organizations certainly need to also share failures, although "failure" may not be the correct word if the organization learns from the process. Different attitudes toward failure may represent a major difference between American and Japanese firms. In America, organizations do not like to discuss failures and quickly move to bury unsuccessful incidents. In Japan, however,

Questions To Ask In Retrospect

All significant events should be reviewed. The organization should ask the following questions:

- What could have been done differently?
- What could have been improved?
- What shouldn't have been done?
- Did all our various departments interact efficiently and effectively?
- Where were the gaps?
- Where were the overlaps?
- What could we do differently next time that would make the situation easier on all involved?

the events are shared, allowing everyone to learn what circumstances led to a less than successful outcome. An organization needs to analyze controllable and uncontrollable factors and make its conclusions widely known. The intent is not to assign blame but to build future leaders and make the organization stronger.

In this vein, the transportation industries use accident and incident reports provided by the National Transportation Safety Board to improve safety. Airlines and manufacturers review aviation accidents thoroughly to improve safety. Improvements take the form of personnel training or manufacturing changes to modify a mechanism to reduce the possibility of a repeat accident or incident.

Another required element is time. Leaders must understand that time is needed not only to build the system but to search for new information and uses of that information. Mid-level managers, in particular, must be granted time to develop better processes and better uses of information even as they fulfill required objectives.

Changing the culture requires a long-term commitment. It requires the realization that taking time to research competitors, industry trends and general market conditions is not wasting time but rather investing time.

Designing the knowledge management process

When the culture is in place to strongly support the KM process, the next step is to decide on the actual process itself. It is more than purchasing a computer system or inputting information.

If you are beginning the design process, you may want to consider a couple of options. The first is to hire a consultant. If you do not know quite what you need and are hesitant to rely on a new consultant, educate yourself and your group by attending several different seminars about knowledge management,

data warehousing, knowledge mapping and other related topics. Find a well-recommended book on knowledge management so that you can become educated enough to ask the right questions. Without rudimentary knowledge, you will think that anything sounds better than what you have.

One other option is to contact organizations that are known to have successful KM systems in place and arrange to talk with their knowledge management personnel. Ask their advice. Most people are proud of their systems and are willing to share and help others. Be sure to do your homework about KM and the organization you are going to visit. (See Web site listings on page 61.)

With or without a consultant, a corporation should begin its design of KM strategy by reviewing corporate strategy. The KM strategy should be developed to support accomplishment of the corporate strategy, not as a new program heading in its own direction. Along each step of the development process designers should be asking themselves, "What are we trying to achieve, and will this process achieve that objective?" The designers should also specify how often the objectives and strategy for KM need to be reviewed to ensure that they are still aligned with the needs of the organization. Frequency may be determined by the volatility of the organization's field.

After objectives are defined and clarified, the specific information required to meet these objectives should be defined for all departments. The design should provide for information flow upward and downward, as well as laterally. Again, a periodic review can ensure that the methods employed are beneficial to users.

As mentioned earlier, another critical part of the process is designing an incentive or reward system to encourage collection of information. If leadership proclaims its support for the new knowledge management process but continues to reward the best salesperson, the best technician and the most productive operator, then employees will hear two messages. It will be easy to determine which one leadership perceives as most important according to Thomas Davenport,⁸ Verna Allee⁹ and Barb Cole-Gomolski¹⁰. The reward system should be developed to build teamwork. Leadership should create both individual and departmental rewards.

Although it may seem that hiring a knowledge management staff should be the first item of consideration, an organization must decide who will be responsible for which functions before it can determine the personnel required. Many companies choose a chief knowledge officer (or create a comparable

position.) The company should also choose a highly knowledgeable Information Systems (IS) person to help identify the best software and hardware to meet the organization's goals.

Training is yet another critical area that should not be overlooked in the planning stage. Effective training must include seminars led by the senior staff explaining why KM is critical to the success and survival of the company and how each person is an integral part of the process. Senior staff should also review the advantages for the organization, departments and individuals of having information available to resolve problems quickly and at lower levels. A general description of the overall system for capturing and disseminating information should be given, and specific training should be offered as the system comes online and people and departments become ready for active involvement.

There are many possible ways to design and develop the knowledge infrastructure. In the study of benchmarking, one is taught first to search and understand what you have within. Thus the design team should search first within the organization to ensure that all the information that resides with employees is collected and cataloged. You may find that knowledge you seek already exists

within the organization. Additional information may be obtained from professional organizations, similar industrial professional groups or from the Internet. Various Web sites provide links to knowledge management pages that offer guidance and information. (See Web site listings on page 61.)

Dave Ulrich writes about two ways of increasing commitment to KM.¹¹ One is by reducing demands. If KM does not receive a high priority, then it will be continually pushed aside by more pressing daily demands. The second is by increasing resources. While this could mean adding some personnel, Ulrich suggests that it is more important to work with the people already in the organization through sharing control, providing stimulating work that encourages the development of new skills and knowledge, sharing communication, sharing gains, and training and development.

One of the last focuses of planning should be technology. Use the expertise of the IS personnel to find the best systems to meet your designed goals and objectives. Your IS personnel should be able to identify the best software to fit into your existing hardware and software capability. Make sure it is expandable and will meet your future needs.

Collecting the information

During the planning stage, decide whether individuals will be able to enter data and information into the

The KM strategy should be developed to support accomplishment of the corporate strategy, not as a new program heading in its own direction.

system directly or whether all inputs will pass through screeners and data processors. Allowing each person to enter his or her own data will expedite the entry of data that may be crucial. It will also send a strong signal about trust. The negative side is that data may be highly opinionated and may not pass the reliability test. Allowing each individual to enter data could result in knowledge trails that end or change course abruptly.

What information is usable and should be entered? Having a central staff responsible for collecting and entering data will help control the information and keep the data pertinent. Knowledge collectors must have a defined methodology for cataloging and entering data in order to provide a serviceable trail for the user regardless of his or her level of expertise with the system.

One goal of the training provided to employees is to help them understand the task of the collectors. The collectors will ask probing questions, not because they doubt any claim but because they must be able to uncover the foundations of the knowledge in order to enable all to learn. Users must understand the environment in which a decision was made. Collectors must act as both detectives and reporters when collecting information. To gather knowledge they must ask the questions that will provide the "what, where, when, how, and especially why." When collecting information, begin within the organization. Going outside and collecting information before identifying knowledge that already exists within wastes resources.

After collecting information within the organization, begin the search externally. There are many sources that planners may utilize, depending on their needs. Researching industries or organizational groups that support your organization is a good starting point. They are an excellent source for contact with other experts. Customers and suppliers should not be overlooked as valuable sources either. Some external sources provide collected knowledge for a fee. This may save the organization time and resources.

This site under continual construction

Patricia Galagan offers the following statement: "Collecting knowledge is the easy part of knowledge

management. We're not constrained by information, we are constrained by sense making ... what to do with the information."¹² This idea should challenge those who place information in the KM domain and those who extract information from it. Those who enter it must present it in a manner that is easy to find and is connected to other bits of information.

The IS personnel should be accessible to all personnel. By providing information to all personnel, a company allows the people who deal directly with the customers the critical information they need to provide prompt and reliable service.

When constructing the knowledge storehouse, you may find it useful to incorporate a counter on each page of information to aid in tracking what information is used and what isn't. This will provide data to measure the usefulness of the system and the information it contains. Periodic cleaning (removal of unused data) can prevent loss of useful space and slowing of the system.

In the video *Importance of Mistakes*, John Cleese describes the process of developing good ideas.¹³ It does not involve just one person. If we could trace ideas back, we would find that someone originated a not so good idea, to which someone else added information. Then someone else, pooling new information and past resources, modified it again and reshaped it into a good idea. This process has been adopted by several KM leaders who developed an open bulletin board to allow for inquiries on any subject. The bulletin board is accessible to all employees 24 hours a day. It allows anyone to submit queries and receive responses.

Organizational implementation results

Buckman Laboratories is recognized as one of the leading corporations to excel in the use of KM. Information is accessible to all employees 24 hours a day. Full text search is available with automatic system updates and multilingual capability is provided through Buckman's distance learning effort, the Bulab Learning Center. Other linguistic support is also provided.

Part of the Buckman Sharing Philosophy includes reducing the number of times a question is passed on before it is answered. Everyone in the company can see the questions being asked, and users can select the

- **TCM Internet Services**

www.tcm.com/trdev/t2.html

Contains over 225 Web sites of interest to training and development professionals, ranging from *Acceptable Internet Policy Use* to *The World Lecture Hall*. See *Knowledge Garden* for specific information on KM.

- **Buckman Laboratories**

www.knowledge-nurture.com/

Buckman Labs, a leader in KM, provides information on its Web page to help others build KM and provides links to other papers and research useful in KM development.

- **University of Texas**

www.bus.utexas.edu/kman.

- **Intranet/Knowledge Management Resource Center**

www.uni-hohenheim.de/~miepple/ikcenter.html

- **Business Researcher's Interest (BRI) Knowledge Management and Organizational Learning Page**

www.brint.com/OrgLmg.htm

- **Montague Institute**

www.montague.com

best answers. It also includes encouraging each employee to ask questions, provide comments and offer solutions for the many concerns and challenges mentioned. Although the Buckman philosophy does not mention heavy reliance on technology, it does utilize the Internet/intranet as a tool to enhance communication exchange. Buckman focuses on the individual as the critical core component.

Those considering entering the KM process must remember that it is not the computer system that makes

knowledge. The critical links are the organization's human resources. They are the links that provide, collect, disseminate and interpret the information. They are the links that decide on the correct application for the present situation. They, the people, are the links that will make the organization survive or fail.

REFERENCES

1. Arian Ward, "Definition" of Intellectual Capital and Knowledge," April 22, 1998, <http://www.co-i-l.com/coil/knowledge-garden/ic/arianic.shtml>.
2. Robert J. Hiebeler, "Benchmarking Knowledge Management," *Strategy & Leadership*, Vol. 24, No. 2.
3. John Cleese, *Importance of Mistakes* (Chicago: Video Arts, 1988).
4. Barb Cole-Gomolski, "Users Loathe To Share Their Know-How," *Computer World*, Vol. 31, No. 46.
5. David Stamps, "Managing Corporate Smarts," *Training*, Vol. 34, No. 8, and Vol. 40, No. 6.
6. H. Saint-Onge, "Tacit Knowledge: The Key to the Strategic Alignment of Intellectual Capital," *Strategy & Leadership*, Vol. 24, No. 2, and Vol. 10, No. 5.
7. W. E. Deming, *Out of the Crisis* (Cambridge, MA: Massachusetts Institute of Technology, Center for Advanced Engineering Study, 1986).
8. Thomas H. Davenport, David W. De Long and Michael C. Beers, "Successful Knowledge Management Projects," *Sloan Management Review*, Vol. 39, No. 2.
9. Verna Allee, "12 Principles of Knowledge Management," *Training & Development*, Vol. 51, No. 11, and Vol. 71, No. 4.
10. Ibid.
11. Dave Ulrich, "Intellectual Capital = Competence and Commitment," *Sloan Management Review*, Winter 1998.
12. Patricia Galagan, "Smart Companies," *Training and Development*, Vol. 51, No. 5, and Vol. 20, No. 5.
13. John Cleese, *Importance of Mistakes* (see reference 3).

WILLIAM SHOCKLEY III is chairman of the Division of Organizational Resources and Development at Bluefield College in Bluefield, VA. He received his master's degree in logistics management from Central Michigan University in Mt. Pleasant. Shockley is an ASQ student member.