Knowledge Management

The "Master Key" to Successful Programs

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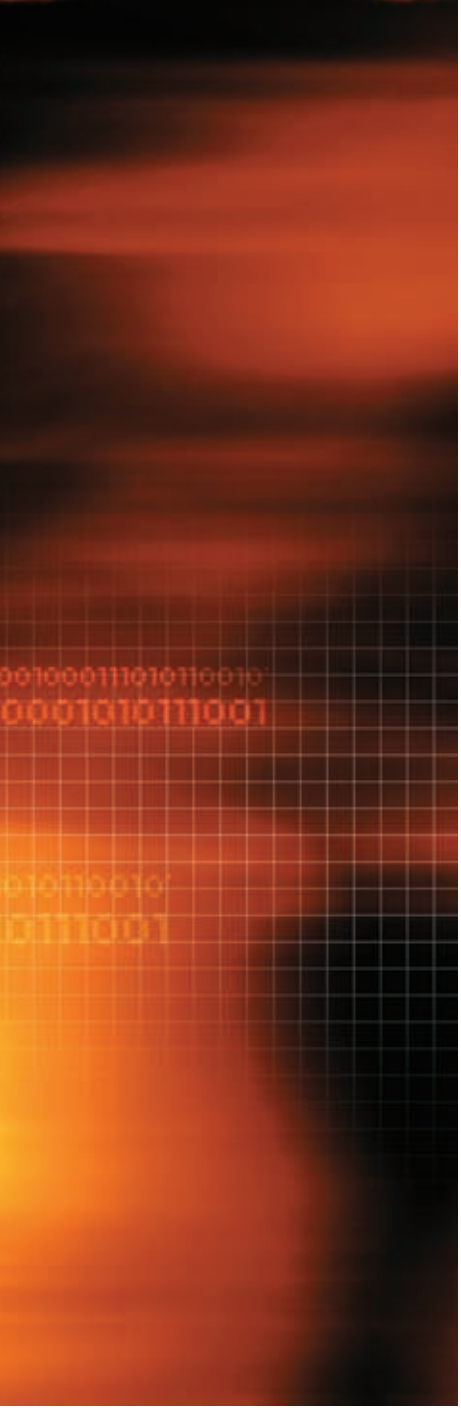

It can be agreed that the key to the success of any program is to have the right information at the right place at the right time to make important decisions that enable a program to meet cost, schedule, and performance objectives. This article highlights the importance of knowledge management and how it can serve as the "master key" that will open many doors for the program manager (PM) to implement standardization initiatives that will help ensure a successful program. How does this happen? It may sound simple, but in fact, it is difficult to implement. Programs cannot be successful for an extended period of time unless they develop business and culture change processes that help them manage knowledge. In order for the PM to reduce the risks and not rely on luck for the program to be successful, the PM must develop business processes to standardize documentation, normalize data and information, and establish appropriate management controls on the "knowledge" products that ultimately lead to accomplishing the goals and objectives of the program. Information is knowledge, and knowledge is power.

Knowledge-Based Acquisition

(Excerpt from *Defense Acquisition Guidebook*, Chapter 11.5)

Knowledge-based acquisition is a management approach, which requires adequate knowledge at critical junctures (i.e., knowledge points) throughout the acquisition process to make informed decisions. DoD Directive 5000.1 calls for sufficient knowledge to reduce the risk associated with program initiation, system demonstration, and full-rate production. DoD Instruction 5000.2 provides a partial listing of the types of knowledge, based on demonstrated accomplishments, that enable accurate assessments of technology and design maturity and production readiness.

Implicit in this approach is the need to conduct the activities that capture relevant, product development knowledge. And that might mean additional time and dollars. However, knowledge provides the decision maker with higher degrees of certainty, and enables the program manager to deliver timely, affordable, quality products.

About Knowledge Management

Knowledge management consists of systematic and disciplined actions that a program can take to obtain the greatest value from the knowledge available to it. "Knowledge" includes both the experience and understanding of the people in the program and the information the program itself creates, such as documents and reports. This knowledge is also referred to as tacit knowledge (what the person knows, which is derived from experience, beliefs, and values) and explicit knowledge (such as a document, which is typically created to facilitate communication with other people). Both forms of knowledge are important for program success. Effective knowledge management requires an appropriate combination of organizational, social, and managerial initiatives. The art of capturing, storing, and organizing this knowledge and experience and making it available at the right time and place to those who need it is the underlying key to standardization and success.

Integrated Digital Environment

(Excerpt from *Defense Acquisition Guidebook*, Chapter 11.12)

Program managers should establish a data management system within the Integrated Digital Environment that allows every activity involved with the program to cost-effectively create, store, access, manipulate, and exchange digital data. This includes, at minimum, the data management needs of the system engineering process, modeling and simulation activities, test and evaluation strategy, support strategy, and other periodic reporting requirements.

Converting Tacit Knowledge to Explicit Knowledge

Why should programs convert tacit knowledge to explicit knowledge? The answer to this question may be quite simple when we consider the following example: Think about the most valuable employee on your program who will retire within the next year. This individual is always the "go-to" person during a problem situation. The reason you approach this person is because he or she has most likely dealt with this problem or issue in the past and may have some "lessons learned" to share when dealing with a like issue. This person's collective experience always provides the solution to your problem. But, what if this person is now retired and you do not have a source to go to for this tacit knowledge? You think to yourself, "if only this person documented the critical information and lessons learned that were in his or her head over the past 30 years of employment with the organization, we could always tap into the expertise of this individual for the next 30 years." The documentation of this critical information and lessons learned of the employee's experience becomes explicit knowledge when it is documented on paper, in a database, or within a knowledge management system. Think about the value added to your program if you only took the time to document the critical tacit knowledge of your employees and converted it to explicit knowledge. If capturing this knowledge becomes a standard process in your organization, the information is not lost when the employee leaves.

Explicit knowledge (documents), in electronic or hard-copy form, support critical business processes throughout the program. They provide the links in the process, record the actions and results of the process, and account for the majority of inputs and outputs that connect the steps within the process. In-

dividual employees capture these critical process links, but they are often locked away in their electronic form on hard drives, or in hard-copy form in file cabinets on their system, or in their office, inaccessible to the entire team. Because the entire program team does not have access to this knowledge or information, we will refer to this as tacit knowledge. The knowledge contained within these documents, whatever the form, is an essential asset of any organization and thus should be captured and managed so as to standardize the use and reuse of those assets throughout critical business processes and decisions. Forward-thinking programs will develop processes to convert critical tacit knowledge into explicit knowledge utilizing three core technologies of the 21st century: electronic document management, electronic record management, and workflow (process automation) and task management. The PM must have a process in place to standardize and integrate these core areas to prevent employees from creating "islands" of critical information. An enterprise knowledge repository will assist the PM with making an "educated" decision.

Application of an Integrated Digital Environment in the Critical Reagents Program

The Critical Reagents Program (CRP) is responsible for producing, optimizing, and standardizing the use of bio-warfare detection and diagnostic test kits used by the U.S. military. It was the CRP detection kits that first identified the anthrax powder in Senator Daschle's office on October 11, 2001, and it was the CRP detection kits that identified ricin toxin in Senator Frist's mailroom on February 2, 2004. In order to standardize, the CRP established a collaborative process that utilizes an integrated digital environment that enables the best ideas of DoD scientists to be brought forward, shared, and integrated into one joint solution when dealing with the threat of bio-terrorist attack. Virtual teaming and standardization of processes not only save time and money; they also save lives.

Resistance to Knowledge Management

After defining knowledge management and understanding the importance of the relationships between tacit knowledge and explicit knowledge, you may think that everyone within your program will climb aboard the "knowledge management and information sharing train." Nice thought, but incorrect. Even in the best of times, it's a battle to convince employees to participate in knowledge management programs. But in tough times, the tendency is for employees to horde what they know. The following discussion will give you some ideas on how to influence the program team to "buy in" to the standardization and information sharing process for the benefit of your program.

Gaining Buy-In to Knowledge Management

The members of your program team already believe they have more work than they can handle, and now you want to add another thing—this "knowledge management-standardization" concept—to their plate. Therefore, you must find ways to integrate knowledge collection and dissemination into the team's everyday job. You must standardize information collection and dissemination so that it becomes common practice. The knowledge management system should be developed around the business processes within the program. By standardizing business processes, the program streamlines the process, which ultimately saves time and money.

Some programs make the mistake of buying a knowledge management software package before reviewing their business processes and requirements. Time must be taken up front to analyze and identify

Army Knowledge Online

As noted by S.L.A. Marshall in *Men Against Fire: The Problem of Battle Command*,

> During war, it oftentimes happens that one company, by trial and error, finds the true solution for some acute problem which concerns everyone. But when that happens to a company, I can assure you that it is the exceptional company officer who takes the initiative and passes his unique solution along to his superiors even after he has proved in battle that the idea works. A good company idea in tactics is likely to remain confined to one company indefinitely, even though it would be of benefit to the whole military establishment. Such omissions are not due usually to excess modesty or indifference on the part of the officer, but to his unawareness that others are having the same trouble as himself.

Army Knowledge Online is the Army's Knowledge Management Center to provide real-time collaboration and knowledge sharing across all known typical boundaries. The value added in human life is immeasurable. Also the resources, time, equipment, and lessons learned are a significant value in cost avoidance.

A unit network can provide a competitive tactical advantage to the warfighter by creating, supporting, and improving unit knowledge centers as well as providing a virtual right-seat-ride for units deployed or preparing for operational missions.

an organization's requirements and key processes. If a software package is purchased without this critical step occurring, employees may be forced to change the way they do business just because the software package is not designed or programmed to perform certain functions. This creates frustration and resistance for the employee. Most of the time, employees just ignore it if they so choose. Therefore, the knowledge management system must ultimately help people do a better job, whatever their function. The employees must feel that it makes their job easier, not harder.

Employees also must feel that their ideas and suggestions have been taken into consideration. When they feel that they have had input into this "new" system called knowledge management, the buy-in is happening from the beginning, not at the end when you have purchased software and it just shows up on their desktops one morning unannounced. If possible, it is helpful to form a working group of individuals from various groups or departments throughout the organization that can bring ideas to the table and relay information back to their group or department, so that everyone in the organization has the feeling of being heard. In addition, these same working groups can be used to standardize the system once implemented. When the system offers consistency across the organization, employees will know where and how to find the information for critical functions such as decision making.

"People have to see tremendous immediate benefit," says Barbara Saidel, Chief Information Officer for Russell Reynolds Associates (recruiting company). "They have to see, smell, touch and taste how it's going to improve their work lives." Recruiters document their search efforts in the application they already use to do their jobs, so that they don't have to open a second application and make a special effort to capture the knowledge. While the recruiters are on the road, they dictate candidate notes into assistants' voice-mail systems with no typing or Internet connection required. To drive knowledge management at Russell Reynolds, the company circulated a document every afternoon throughout its 32 offices worldwide that showed all outstanding proposals and projects. All employees were expected to read it carefully and respond immediately if they could share a contact or industry background. Recruiters with positions to fill saw instant benefits when they got on-the-spot help from people they have never met but work for the same company. Tapping into the network of contacts of more than 700 employees helped the company fill positions faster, which drove greater client value.

At Giant Eagle, a deli manager hit on a way to display the seafood delicacy that proved irresistible to shoppers, accounting for an extra $200 in 1-week sales. But uncertain of his strategy, he first posted the idea on the KnowAsis portal. Other deli managers tried the idea in their store and saw similar profits. The total payoff to the company, for this one tiny chunk of information, was about $20,000 in increased sales. Seeing the bottom-line benefits of sharing knowledge propelled the employees over their initial misgivings, spurring them to try and out-hustle each other on having the best suggestions, rather than the usual metrics. "Now they're competing in the marketplace of ideas," said Russ Ross. "It became a 'Look What I Did' showcase. Everyone wanted to put something in there," said Brian Ferrier. Ferrier made a point of getting on the portal at least once a day to find practices that helped him make money.

In each case, the employees saw that their ideas and suggestions were being heard and making a difference. In addition, the employees saw this standardized knowledge sharing process as helping to make their jobs easier, thus saving time and ultimately saving money. These are just a few examples of the successful use of knowledge management that have led people to want to buy in to the process through its proven value to the program.

Implementation

The implementation of an integrated knowledge management solution supporting critical business processes will cause fundamental changes in the way a program carries out its business practices. This integrated knowledge management solution will help an organization standardize and streamline processes. The impact of these changes must be managed and the expectations of the participants and the management must be set appropriately. Reasonable goals must be set and achieved.

Implementing across the enterprise is not always possible, however. A scalable system could be deployed so that as the experience and comfort levels expand, the system can grow to support more processes and users until it becomes the preferred method for accomplishing critical program tasks throughout the entire organization. Implementing in stages is often the key to success; starting with the department that showed the most support during the buy-in stage. This group can then be used as a champion for the rest of the organization. As you continue implementation, you will have multiple champions that help to aid the knowledge management process buy-in throughout the entire organization.

Pilot systems are often more manageable and can be used to prove that the technology works and is applicable to your business processes and business culture. Once adoption of the technology is achieved, the pilot system can grow, supporting additional functional areas. Growth of the pilot system allows leveraging of smaller capital investments already made and is dependent on the selection criteria of the tools used to build the pilot system in the first place.

The risk in not doing so is not only the loss of the technological investment and the resources used to develop the system, but could potentially include the intellectual capital captured in the system as well.

A highly skilled integration team must be assembled and a structured method should to be used to develop a successful roadmap for the overall design and implementation of an integrated knowledge management system. The most appropriate of the many tools and techniques available in the marketplace have to be identified. The tools and techniques purchased should relate to the organization's goals, requirements, and key processes identified in the buy-in step.

Conclusion

Today, workgroups supporting programs are scattered in smaller teams around the globe. The network, intranet, and Internet are at the center of the universe. Processes can no longer exist as islands; they must be standardized and streamlined. Knowledge is being shared with wider audiences over vast geographies and at breakneck speeds.

Using an integrated knowledge management solution to standardize, capture, and deliver the right knowledge to the right knowledge worker and decision maker at the right time will become a competitive advantage to the program and the program manager and, ultimately, will work as a source of risk reduction, revenue enhancement, and cost containment. An additional byproduct is the ability for the management team to consistently measure and monitor the performance of the program using the matrix data provided by performing work in a standardized manner. This will also provide for continuous improvement opportunities and a quality assurance process that is unmatched. By using your most valuable assets—your employees and their knowledge—to form a standard system of information capture, storage, organization, and dissemination, you can create a win-win atmosphere for everyone on the team.

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