Critical Success Factors for Knowledge Management in Government Enterprises:
A Case Study of Success at the Department of Commerce

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Abstract

The Department of Commerce is engaged in an extensive multi-agency, multi-year effort to provide a key set of knowledge workers within the Department -- financial management -- with the most effective tools and relevant information obtainable. Financial managers and agency program managers are dependent on having the right knowledge available, at the right time, to make the necessary decisions. This paper summarizes how a set of practical Knowledge Management (KM) based solutions, referred to collectively as Knowledge Delivery (KD), is helping the Department’s financial system modernization program to succeed. The needs addressed by these solutions were derived from the perspective of managing a large, complex government systems modernization program, and the effective delivery of essential information to government knowledge workers as they perform their day-to-day duties.

We believe that other agencies can benefit from learning about the Knowledge Management objectives, successes and lessons learned that are described in this paper.

Introduction

“Knowledge” has been defined as applied information that is used to produce results. For the Department of Commerce Administrative Management System (CAMS) senior management, applied KM is at the heart of mission success. Program managers have emphasized the delivery of the right information to the right person at the right time as a key objective in the implementation of the department’s financial management system. Successful knowledge management leads ultimately to results and action: for example, “clean” audits and effective appropriated funds control.
Knowledge Delivery: A High-Payoff Application of Knowledge Management

Knowledge Management results are best realized through the successful accomplishment of Knowledge Delivery. What is Knowledge Delivery? Simply put, it is:

- Planning for the overall control of the knowledge life cycle;
- Acquiring information and knowledge from the most cost-effective sources;
- Distributing current, perishable knowledge quickly; and
- Finding and locating knowledge resources, whenever the need occurs.

This concept of a Knowledge Delivery Life Cycle emphasizes that the process is continuous and benefits from ongoing planning and improvement. In addition, we believe that Knowledge Delivery is not simply making knowledge sources available with the hope of being “discovered” and used by the appropriate people. Rather, it is the proactive, well-planned and controlled process of physically delivering access to the targeted knowledge resources to the right people at the right time.

Key Critical Success Factors: The Four Pillars of Knowledge Delivery

The Department of Commerce Knowledge Delivery efforts undertaken to-date are based on four primary critical success factors derived from fundamentals of good management. To us, they represent the pillars upon which a results-oriented KM program should be built.

Support Your Customer: Collaborate and Communicate Mission Management Information

Every governmental mission and business activity has a customer. Whether the customer is internal or external to your organization, an important critical success factor of knowledge management is the ability to collaborate and share the knowledge that enables effective program management. Whether it is a programmer sharing technical status information with his/her project manager, or the upward reporting of contracts information to the departmental program sponsor, “customer” communication is essential.
For example, SYSTALEX Corporation, an information technology contractor for the CAMS program, shares its project, program and contractual information with the CAMS Support Center (CSC) in Gaithersburg, Maryland, through a comprehensive program information collaboration Web portal. Known as the Customer Support Portal, it serves as a secure knowledge center for the government program management, contracts management and project management personnel. The full range of CAMS program information needed by both the government and contractor is as close as the nearest browser for all authorized participants. As may be seen in the Home Page example below, the portal is personalized to enable access of the right information by each authorized user.

Content available on the Customer Support Portal includes both archival and current documents available through category browsing and search engine types of access. Knowledge sources such as Program correspondence and status information is now available online to all authorized individuals on almost instantaneous basis. As another example, Desk Procedures and Technical Standards – common forms of organizational knowledge – are provided in the document library, a few clicks away.

As proof of the acceptance of this capability, some users have commented that with the Customer Support Portal, file cabinets are almost a “thing of the past.”

The example below illustrates high-level categories of information available to government managers and staff, and a representative “Advanced Search” being set up to find correspondence stored in the portal.
Support Your Employees: Continuously Deliver Up-to-Date Job Performance Knowledge

The second critical success factor is underscored by the need to support your employees. For example, one major impediment to success in the deployment of automated information systems to administrative and clerical staff has been in the area of end-user documentation. The CAMS Support Center recognized this and initiated an effort to migrate to online documentation for the Core Financial System (CFS.) The CFS utilizes dozens of complex screens that require precise knowledge of how to process financial transactions. This is complicated by the need to follow varying office procedures for using the system -- dependent on the geographical location and bureau.

CSC management recognized that the solution to this problem could be found within an online user operations knowledge delivery capability. Hosted within a Web portal server, this solution delivers “help like” documentation via standard Web browsers. The documentation can be tailored to the job of each user, and maintained completely up-to-date as the system or job procedures evolve.

Better yet, under this approach of Knowledge Delivery, systems documentation can be infused with best-practices and “lessons learned” -- collaboratively contributed by other users, and integrated into the portal-based documentation.
As illustrated above, the documentation delivery portal is accessed to select the latest version of the documentation for performing a financial transaction. Then, as shown below, the documentation may be navigated and reviewed by the user in a format optimized for online reference.
Support Your Mission: Enable Knowledge Accessibility through Improved Workflow and Security Management

Effective reporting and control over mission-related content delivery is a KM function at the heart of public service. Federal agencies and other public sector organizations are finding that Web-based reports and related knowledge source distribution, using a personalized information portal approach, provides a highly effective way to achieve control over the report production process and to quickly get the right knowledge to the right people — wherever they are. CAMS program management and managers within the bureaus have recognized that a well-designed financial reports library and associated workflow management mechanism can provide a safe and controlled way to store, distribute and later locate critical financial management knowledge sources.

A portal-based solution can place both new and archival knowledge access right on the users’ personalized Web home page — where employees can readily view and react to essential information. Workflow management integrated into the knowledge distribution process provides additional distinct advantages: Commerce management believes that it is very desirable for users to automatically receive immediate subscribed report availability notifications by e-mail via password-secured links to the actual report content. Recipients can then view and/or print selected portions of the report output as they desire right from their workstation browsers.

Workflow management also enables an approval cycle that ensures that only approved content is distributed to subscribers. In the case of content requiring approval in advance, approvers are first sent password-secured e-mail requests to review and approve the content through a browser popup page. The approved content will then be distributed through the workflow management system to the full subscribing population.

Consistent with the above approach, a subscription-based Knowledge Delivery capability that Web-enables currently non-Web financial/administrative applications is being evaluated by several system modernization program offices within the Commerce Department. The evaluators have quickly recognized that a major advantage of the portal-based approach is the rapid implementation of Web Knowledge Delivery, without the need to wait for a time-consuming and expensive migration to a Web-based automated application suite.

Other specific advantages of this particular Knowledge Delivery Architecture (illustrated below), are the conversion from existing character printout reports to accessible Section 508-compliant Portable Document Format (PDF), and the ability to automatically capture/store/distribute reports and documents from/to any point in the geographically far-flung network.
As a specific example of the implementation of the Knowledge Delivery Architecture, the partial portal screen browser image below illustrates a comprehensive reports distribution control capability integrated with a financial management knowledge portal. This capability utilizes the Knowledge Delivery Life Cycle, described in the beginning of this paper, as the underlying business process model.
Of course, it is understood that reports delivery does not constitute true KM or even a complete implementation of Knowledge Delivery. The full complement of Knowledge Delivery tools, policies and procedures all contribute to making true operational knowledge available to knowledge workers. That is why it is so important that a financial reports distribution capability, for example, be integrated into a broader financial management knowledge portal. In this case, the availability of the full search and browse access capabilities of the subject area portal, in addition to the delivery of financial reports, is essential for financial management knowledge workers to optimize the performance of their jobs.

Control Your Costs: Ensure that Knowledge Delivery is Affordable and Cost-Effective

The final pillar of success is certainly of no surprise to anyone. Properly implemented and managed, KM should demonstrate a measurable “payoff” for agencies. Metrics to demonstrate success should include tangibles (cost, schedule, performance), as well as intangibles (such as employee job satisfaction, employee convenience, improved decision making, etc.). Making benefits visible are an important part of acceptance of any KM effort. Each of the other three critical success factors described can and should be characterized in terms of cost-effectiveness and affordability.
Knowledge Delivery provides an excellent basis for KM cost-effectiveness metrics. It is relatively straightforward to determine the direct labor savings as a result of “unproductive” time reduction and other forms of cost avoidance through the more efficient distribution of information products, as compared to previous means, for example.

Other metrics can measure the value of improved support to knowledge workers as a result of having procedural “how to” information more readily available. For example, the estimated time saved searching for application system user problem resolution information (see the DOC user documentation portal description, above) can be quantified across the user community. The Department of Commerce support team has developed cost models that estimate the parameters associated with Knowledge Delivery. Those models can be made available for use by other agencies.

Conclusion
The experience of the Department of Commerce has demonstrated that a viable initial knowledge management capability can be accomplished through the principles of good communication and management. By focusing on improved communication with financial management customers and staff, and through improved workflow procedures, the CAMS program is improving knowledge delivery to its key personnel. The decision to begin with low cost portal server software -- coupled with productivity-enhancing portal administration tools to reduce the burden of portal management and increase the off-the-shelf portal server functionality -- has helped to create a cost-effective practical knowledge delivery solution during a period of increased budgetary pressures.

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For more information stop by the SYSTALEX E-Gov Knowledge Management Exhibition booth 214, or contact:

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