

**BIOGRAPHICAL INFORMATION**

Susan French Smith  
Corporate Knowledge Manager  
KEMA Inc.

**Specific Responsibilities**

Susan joined KEMA (formerly GeoIT) in 1997. Ms. French Smith is responsible for KEMA's knowledge management strategy and implementation throughout the global organization. Additionally, she provides project management services and expertise to clients in the development and integration of Utility Operations enterprise projects.

**Past Experience**

She has 24 years of experience including 9 years as a Software Engineer, and 15 years as a Consultant in varying capacities. Ms. French Smith's expertise in software development led her to a consulting position where she provided consulting services in the areas of GIS, OMS, data conversion, integration, and utility applications including network tracing, work flow management, and mapping facilities.

**Educational Information**

MBA, Artificial Intelligence, New Hampshire College, 1985  
BS, Mathematics/Computer Science, University of New Hampshire, 1980

**Professional Memberships**

AAUW – American Association of University Women  
GITA – Geospatial Information & Technology Association

**Knowledge Management Strategy**

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Description: The benefits of Knowledge Management (KM) applications are substantial. New KM tools and ideas focus on the ease with which information can be made available, improving search engines, and supporting the overall desire to manage and present the overwhelming amount of data available to the user in a manageable format. This session will define and identify these new technologies, provide a brief introduction, and describe a methodology to develop a KM strategy and its application.

**Abstract****Introduction**

Knowledge Management has evolved in the last two decades from ideas based in artificial intelligence and the concepts that machines can learn to the more recent and accepted idea that knowledge is a combination of the data and information contained in databases with the heuristic applications of human thought. Unfortunately, there's no universal definition of KM, just as there's no agreement as to what constitutes knowledge in the first place. For our purposes, KM is the process through which organizations generate value from their intellectual and knowledge-based assets<sup>1</sup>. Generating value from our information involves both people and technology components in an effort to develop best practices. The impact of knowledge management and how to generate valued from our assets is directly to the next steps required to make the most of our spatially enabled systems and processes. In order to justify a business change program centered around knowledge management, an approach needs to be developed with the needs of the business considered, and a business case and plan can then be developed with those needs in mind.

**Definitions**

Knowledge Management –  
Tacit knowledge  
Information

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<sup>1</sup> The ABCs of Knowledge Management, Megan Santoso and Jon Sermacz. CIO

Data  
Explicit Knowledge

**Why Knowledge Management at a GIS Conference**

What is the tie between the geospatial industry and knowledge management? The geospatial technology we are familiar with can be a key component in helping your business develop a successful knowledge management program. Spatial databases already combine elements of location and asset information into a single data store that provides humans with enough information to make decisions based on their knowledge. By looking at these systems with a fresh eye and taking them beyond their current applications, their applications in the knowledge management space can enable companies to better leverage the information for additional benefits. Spatially enabled systems can address problems identified as part of a knowledge program include the aging workforce problem, asset management decisions, and supporting collaborative groups designed to solve challenging problems facing the business.

**Benefits of Knowledge Management**

KM has proven benefits across a business. Begin by considering what is the strategic problem or process that could be improved if knowledge about best practices were better shared in your organization? Customer service? Improved reliability? Better business practices for engineering, restoration?

Benefits can be organized into the major categories of decreased costs, save time, improved quality, and improved sales. In each of these categories, the following areas can be considered.

<b>Decrease Costs</b>	<b>Save Time</b>	<b>Improve Quality</b>	<b>Increase Sales</b>
<ul style="list-style-type: none"> <li>• <b>Reuse products</b> (methods, Business Process, templates)</li> <li>• <b>Learning from failures</b> (not repeating costly mistakes)</li> <li>• <b>Faster Integration of New Employees</b> (reduces time to billable)</li> <li>• <b>Reduced Training Costs</b></li> <li>• <b>Reduced Sales</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Avoid redundant work</b></li> <li>• <b>Faster access</b></li> <li>• <b>Optimize communication &amp; collaboration</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Leverage world-wide competence</b></li> <li>• <b>Best practices &amp; quality solutions</b></li> <li>• <b>Faster innovation through Quality Methods</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Higher Average hourly rate – better qualified</b></li> <li>• <b>Improved billability by reducing Business Development</b></li> <li>• <b>Remote access for sales</b></li> <li>• <b>Selling Knowledge Management know how to customers</b></li> </ul>

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**Costs****Examples of problems addressed by KM**

Let's consider a few of the problems in the geospatial environment that can be directly addressed by knowledge management.

**Aging Workforce**

The aging or retiring workforce is a problem faced by several industry sectors. Often times, a workforce was hired during a period of growth and as such, there is a large cycle of retirement facing the business at a certain point in the future. Consider the dilemma we face in air traffic control. At one point in our history, all air traffic control employees were replaced in a single event. We are currently faced with a set of critical employees with a set of knowledge all likely to retire within a set period of time. Closer at hand, the retirement of people who understand a utility's infrastructure, unless captured properly and made available, can severely impact the businesses ability to effectively respond in a manner similar to its current abilities. It may take longer and be more costly. Knowledge management combined with a knowledge program focused on people interactions addresses this problem by actively pursuing ways to collaborate and share information in a way that makes the retiring staff receptive to sharing and informing the remaining staff.

**Merger results in loss of valued resources**

Mergers and acquisitions result in overlapping resources and often times people are reassigned or let go. As a result knowledge of the existing corporate resources is lost. This can result in a huge gap in knowledge as the merger often happens in a relatively short time frame by comparison. Important knowledge about the corporate assets, infrastructure, and operations is lost. Often times, retired or severances employees are asked back at an additional cost to the company.

**Need it now, expert is unavailable**

During major events, it is critical to have access to knowledgeable individuals and have access to their systems. Often if this information is not stored so others can determine problems and solutions, the knowledge is locked up with the individual. Have you ever made a phone call and gotten the response, you'll have to wait until next week when 'Joe' is back to be sure. Knowledge management programs can alleviate a company's reliance on key individuals.

**Different results from identical equipment, plants.**

If the same set of equipment and circumstances (for example, two power plants), deliver different results, how can you determine how to make changes?

## **KM Strategy**

Any knowledge program must first lay out a strategy and objectives as to what the program is designed to do. The first step in setting a strategy is to define the problem that the program is to solve and address. Is it to avoid the loss of knowledge for an aging workforce? To better aid decision making and collaboration? To improve the knowledge of the workforce of the company to help the company maintain its competitive edge? Once this idea is developed, a clearer approach and strategy can be developed.

## **Elements of the Strategic Plan**

A KM strategic plan should have the following elements:

- Objectives, problems that will be addressed
- Approach
- Plan
- Budget
- Cost Benefit analysis
- People, process, data, and technology assessments including to be state development
- Measurements

## **Objectives**

Clearly, objectives of the KM program need to be aligned with the corporate strategy. By identifying the key programs important to the corporation and its stakeholders, objectives around a knowledge program can be developed. Areas to focus attention for finding objectives include discussions with executives – where do you see the business in 5 years?; Annual report; IT strategy; Marketing information showing competitive analysis. Examples of objectives around a KM program include:

- Project life cycle improvement – every business has projects that are designed to improve business. The actual implementation cycle of projects from inception through completion can be enhanced by a KM program through information sharing, and process improvement with each new project.
- Maintenance of information regarding assets, processes, and business statistics. KM programs can improve the processes around maintaining data to make sure it retains its accuracy. Often in the geospatial world, data is converted to the spatial database and money is invested in that data, but little thought is given to maintaining its accuracy and usefulness to the business.
- Communications improvements include improving access to key resources, experts and improving knowledge sharing across business units.

## **Action Plan**

An action plan needs to be developed around these objectives. In any Knowledge program, there are two clear approaches, technology centric vs. people centric. The most successful knowledge programs emphasize one approach over the other. A technology centric program is best advised to address the problem of extensive quantities of technical information and processes that can be encapsulated in a technology solution. A people centric program is best advised for those businesses that

are reliant on its people interacting in order to improve and achieve its business objectives.

Using the objectives, strategy, and goals of the KM program, the action plan should include the activities and timelines in order to gain the benefits defined.

### ***Budget***

Once an action plan is developed a budget can be developed. The budget needs to address resources, outside expertise, technology, and subscriptions (access to additional information sources).

### ***Business Case***

The business case takes the budget and benefits and develops the case for the executives to decide if the plan makes business sense. Often times, there are hard and soft benefits to consider. Key hard benefits to consider include project startup costs, proposal or business development costs, replacement costs, corrective costs if done incorrectly. Soft benefits include employee satisfaction, capture of intellectual capital, less reliance on key individuals or internal knowledge.

### ***Measurements***

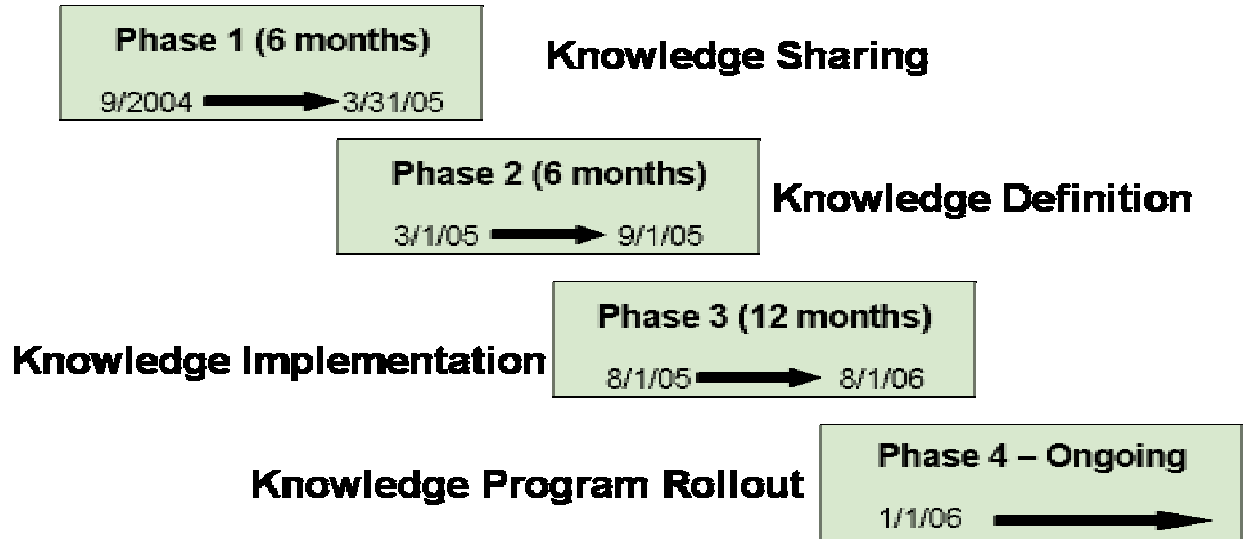
In order to determine if a program is working, it is always best to determine how to measure its success and progress. Based on the business case, the measurable outcome can be established. A baseline should be taken at the start of the project and then updated periodically. Example measurements include number of times the knowledge system is used, additions, extractions, and searches; improvements in efficiency and responsiveness in key areas, and customer satisfaction.

### ***KM Implementation***

Once approved, the KM program can begin its implementation....

### ***People Centric***

A people centric implementation consists of phases.



**Phase 1: Knowledge Sharing**

Activities:

- Knowledge Center Organization
- Communications Setup
- Validation By External Consultant
- Knowledge Groups
- Refinement of Benefits, Budget
- Initial State Measurements
- Guidelines of use
- Prototype Access

**Phase 2: Knowledge Definition**

**Activities:**

- Continue communications, program management, knowledge groups
- Business process review with prototype technology
- Identify initial business processes to address with knowledge technology
- Build ontology structure based on portfolio results
- Gather requirements

**Deliverables:**

- Communications, knowledge groups progress
- Requirements definition
- Validation of technology requirements
- Prototype decision

**Phase 3: Knowledge Implementation**

Activities:

- Continued communications, knowledge groups, program management

- Application development
- Phased rollouts
- Maintenance practices established
- Guidelines established

Deliverables:

- Elaboration and Construction phases of knowledge technology
- Added users in phased rollouts
- Maintenance business processes communicated
- Guidelines for use published

#### **Phase 4: Knowledge Rollout**

Activities:

- Complete Roll-out
- Continuous Improvement Plan
- Evaluations, Measurements, Communication
- Maintenance procedures in place
- Ontology mapping continues
- Data Validation
- Archival processes established

Deliverables:

- Rollout to all defined users
- Business procedures are redefined
- Knowledge program is incorporated into mainstream of everyday business

## **Conclusion**

A knowledge management program can be pursued and successful if there is a clear strategy and benefit to the company. As with many IT and large projects, basic project management skills tied with strategic direction and a clear business case can lead to a successful outcome.