Knowledge Mapping Guides Organizations to Knowledge Within its Walls
By Vicki Powers

Organizations implementing knowledge management depend on maps to locate internal knowledge, much like an explorer follows a map in the wilderness.

And like a travel map, knowledge maps are static. A knowledge map provides organizations with a "snapshot in time" to help them understand and categorize knowledge assets. It acts as an explicit example within a business process of who has the knowledge, where the knowledge is located, and why it is important.

The process of knowledge mapping, however, focuses on a dynamic, ever-changing process. And for this reason, organizations find it an extremely valuable exercise. Wesley Vestal, senior KM project manager at the American Productivity & Quality Center (APQC), and Cindy Hubert, an executive director at APQC, recently shared their experiences with knowledge mapping.

"Organizations use the process of knowledge mapping to understand what knowledge is needed for a particular process or part of their business," said Vestal. "The key, however, is mapping knowledge in the context of the business process you're trying to improve to understand the gaps and strengths. It's worthless to just map any knowledge, because you won't know what to do with it."

Why Map?
Organizations use knowledge maps for a number of different reasons. Some organizations compile company locators to find internal and external resources. Others use them to identify knowledge sharing opportunities or knowledge barriers within cross-functional work groups. Many companies use knowledge mapping before developing formal communities of practice or After-Action Reviews.

"Knowledge maps help identify what core knowledge is important to a business," said Hubert. "It is a tool to identify knowledge gaps by looking at what is needed. Knowledge mapping is a precursor activity to designing a knowledge management approach. It's not about performance but knowledge gaps and how information flows."

This differs from a knowledge assessment, which focuses more on the enabling critical aspects that are necessary to begin a knowledge management (KM) approach, such as culture, leadership, business opportunities, and information technology. Knowledge mapping can be one tool used when conducting a knowledge assessment.

Creating Maps
Organizations should not design a KM approach without first mapping their knowledge, said Hubert. Within the context of APQC's Road Map to Knowledge Management Results: Stages of Implementation™ framework, Hubert recommended mapping knowledge in stage 2 (develop a strategy) or stage 3 (design and launch a knowledge management initiative).

APQC's Road Map to Knowledge Management Results: Stages of Implementation™
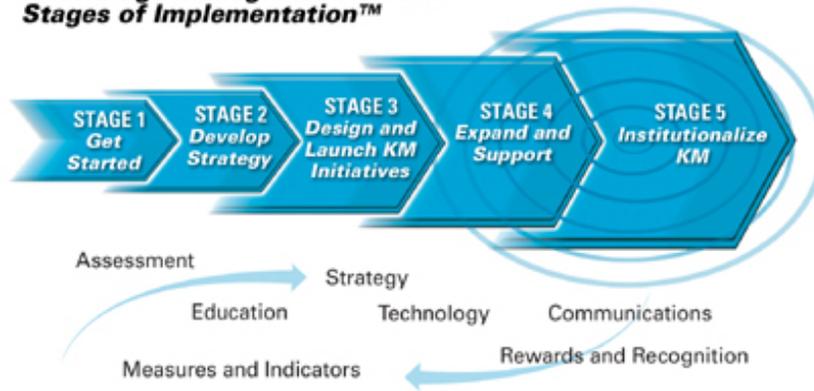
Knowledge maps can be strategic or tactical depending on the needs and intent of the organization. Teams can capture many different types of knowledge, ranging from explicit and tacit knowledge to historical and cultural knowledge learned from people and documents.

Teams begin mapping their knowledge by identifying the core process that needs improvement, from the enterprise perspective or the process-level perspective. The highest level of mapping—at the enterprise level—is considered an expertise overview. This level of map provides a broad understanding of what knowledge the organization has in various parts of the business. It identifies the strengths and opportunities in expertise, knowledge, or sharing behaviors, as well as key assets that need to be available to other parts of the organization. This map becomes outdated quickly, however, based on the extensive, time-consuming task of mapping knowledge assets across the enterprise.

The next level down, the expertise tacit knowledge map, focuses on a business unit or division with similar units. Its purpose is identifying members with specific knowledge and the types of knowledge to be shared.

"If you want to improve a particular process or create a community of practice, but don't have time to write down every bit of knowledge that's needed, this knowledge map is more appropriate," Vestal said. "Organizations can ask at each step of the process, 'Who are the experts we need to have involved or be available to others?'"

The most specific map of all, the knowledge map gap analysis, helps tie knowledge sharing to a specific work process or group. This map gathers specific information about what knowledge is needed, who possesses it, who uses it, where it is located, and what business issues it addresses. It not only helps prioritize and categorize process information, but also helps groups make sure they have the most valuable knowledge immediately at their fingertips. Organizations can develop a gap analysis based on what knowledge is needed and what is already in place.

"If you map knowledge for the sake of mapping, you have lost the battle before you've begun," said Vestal. "But if you share knowledge, map knowledge, and reuse knowledge to effect a positive business change, that's when it's absolutely vital. It must be part of a KM strategy and focused on helping the business perform more effectively."

Mapping in Action
Air Products & Chemicals, a gas provider and chemical producer, is an example of one organization benefiting from knowledge mapping. Air Products & Chemicals has developed a strong knowledge management effort since the late 1990s. In 2003 it started mapping its knowledge after APQC provided training to two distinct employee groups. One class targeted KM professionals who use knowledge

mapping as a tool in their KM efforts. The other class targeted R&D management, which integrates knowledge mapping into a skill mapping exercise it completes each year.

According to George Witmer, an Air Products' manager in software development, knowledge mapping increased employees' understanding of, and emphasized the importance of, tacit knowledge. It also benefited the organization as a whole and is becoming part of its process improvement and process design.

"We integrated knowledge mapping to our process improvement work and improved skills mapping we'd already begun in the technology area," Witmer said. "Knowledge mapping greatly augmented what we were doing in skills mapping. It fits in with our existing tools rather than implementing something completely different."

Witmer also emphasized the importance of having the right people involved for knowledge mapping at a sufficient level in the organization to have access to the right information.

"Our experience is if you have the right people, [knowledge mapping] can happen quickly," Witmer said. "If not, you will put a map together that isn't based on reality, or people will be leaving the room to get the information."

Mapping for Success
Vestal agrees that getting the right people involved with the right information is critical to success. The 80/20 rule applies to knowledge mapping like in many other improvement tools: 20 percent of the information will provide 80 percent of the value.

"When you do your initial mapping exercise, remember the 80/20 rule, and use that as a springboard," Vestal said. "Try to get 20 percent of the stuff at the top of people's heads that is easily accessible, which provides 80 percent of value. The challenge is filling the map out as soon as possible by engaging others on the team."

Another critical aspect of mapping success relates to accurately collecting and updating knowledge maps. All knowledge maps become outdated and need to be reviewed at least yearly. Some industries, such as the high-tech industry, may require updates every six months.

"Knowledge maps are effective for organizations of any size," Vestal said. "They are particularly appropriate for large organizations, but even employees in smaller organizations can feel isolated from other parts of the company."

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