

## Process-Based Knowledge Mapping

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At the October 2002 KMWorld Conference, French Caldwell (VP of Information and Knowledge Management at the Gartner Group) predicted that there will be "an increased emphasis over the next few years on taxonomies, ontologies and knowledge maps." Caldwell classified "knowledge maps" into three types:

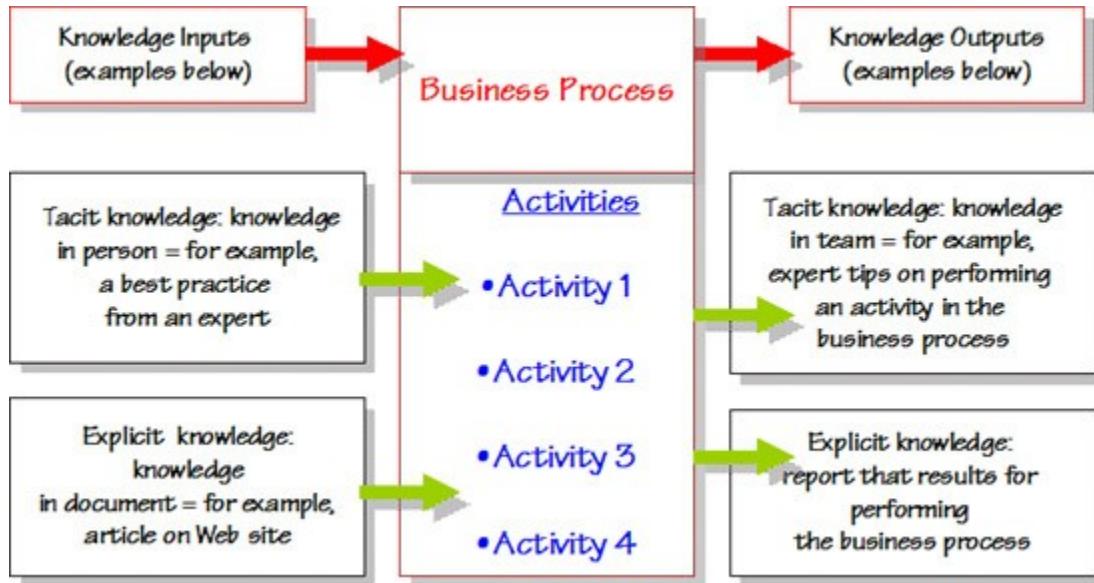
- ❑ **Procedural** knowledge maps show knowledge (and the sources of knowledge) mapped to a business process. This could be any process for a business or organization -- for example, a process for a R&D function/organization, or a selling process, etc. One major use of this type of map is for planning and implementation of knowledge management efforts.
- ❑ **Conceptual** knowledge maps, which Caldwell calls a "taxonomy," a method of hierarchically organizing and classifying content. In knowledge management, a taxonomy is used for content management within a Web site or some other repository.
- ❑ **Competency** knowledge maps document the skills, positions, and even career path of an individual -- to create a competency profile. Among other uses, competency maps can be converted into a 'yellow pages' directory, which enables employees to find needed expertise (skills, techniques, and/or job tasks) in people within an organization.

Another type of commonly used mapping is called **Social Network Mapping or Social Network Analysis**. Social network analysis shows networks of knowledge and patterns of interaction among group members, organizations, and other social entities. One use of a social network map is for analysis of information sharing within a social context.

This article focuses on the first type, procedural or "process-based" knowledge maps--and the technique to create this type of map.

## WHAT IS A PROCESS-BASED KNOWLEDGE MAP?

A process-based knowledge map is essentially a map or diagram that visually displays knowledge within the context of a business process. In other words, the map shows how knowledge should be used within the process and sources of this knowledge. The overview of the business process is prepared before the knowledge and the sources are mapped to this process.



Any type of knowledge that drives the process or results from execution of the process can be mapped. This could include tacit knowledge (knowledge in people such as know-how, experience, and intuition) and explicit knowledge (codified knowledge such as that in documents); customer knowledge; knowledge in processes; etc.

## **WHAT CONSTITUTES PROCESS-BASED KNOWLEDGE MAPPING?**

The process-based knowledge map is created in a two or three day workshop. If the high-level business process needs to be defined or substantially revised, then the workshop could take longer.

Five-ten people collaborate in the workshop. Their main tasks fall into three phases:

**1. Mapping Phase.** Create the knowledge map by mapping knowledge and sources of knowledge to the business process.

**2. Analysis Phase.** Analyze the map in response to probing questions, such as:

- What knowledge is most critical to the business?
- What knowledge is missing?
- What knowledge adds value to the business?

**3. Application Phase.** Apply the map to:

- Planning programs, projects or sets of activities
- Developing KM processes or improving knowledge flows
- Providing a framework for efforts such as a knowledge audit, technology design, after-action review, competency development program, etc.

## **WHAT IS THE USE OF PROCESS-BASED KNOWLEDGE MAPPING?**

There are many uses of process-based knowledge maps. Consider these examples:

A small company or start-up can use knowledge mapping to identify knowledge that is strategic or critical, or to determine what intellectual assets are essential to their business. At the same time mapping might identify knowledge priorities in a merged company (combining the most critical knowledge from each company) or in a restructured corporation.

Knowledge mapping can be used to effectively plan the implementation of a knowledge management strategy--for a business unit, department, or team. The knowledge map can become the basis for a knowledge management program, a set of knowledge management activities within a business initiative, or a knowledge management project (such as a community of practice or a collaborative workspace). Needed competencies can be captured on a knowledge map. The map is then used for a competency/ skill development plan.

As a component of a KM effort, The knowledge map serves as input to the design of a knowledge Web or knowledge system. The knowledge map can also define the initial parameters for a knowledge audit, or a series of knowledge maps can constitute the audit. A knowledge audit is an inventory of key knowledge and locations of this knowledge. It can also be expanded to include definitions of owners, users, and uses of this knowledge. A knowledge map can provide the context for an after action review. An after action review is a structured session designed to collect key learnings and collateral at major milestones in an internal project or on an external client engagement.

To define a knowledge management process or illustrate knowledge flows, a special knowledge map needs to be created for use as the basis for a KM process. Some examples of knowledge management processes are: sharing knowledge, retaining knowledge, knowledge capture and packaging, etc. Knowledge flows are traced within the context of a knowledge map.

For other initiatives that are not exclusively focused on knowledge management, knowledge mapping can be used to develop consulting services and customer solutions. The mapping workshop outlines the selling and delivery methodology, defines associated tools and collateral, and profiles roles needed to sell and deliver the service or solution. And then the workshop participants scope knowledge management activities that improve the competitive edge and increase selling and delivery effectiveness for the service or solution. The knowledge map also can be used for planning any type of new initiative or project.

## **WHAT ARE THE BENEFITS OF USING THIS TECHNIQUE?**

The mapping technique has several advantages. First, the knowledge map is represented in a simple, clear visual format that is easy to understand, is easy to update and evolve, and is easy to use by the users in the organization. The map becomes a valuable tool over the life of the project. Second, the mapping methodology forces participants to identify key knowledge areas that are most strategic and/or critical to their business. Third, the analysis of the knowledge map generates ideas for sharing and leveraging knowledge that are most suited to the organization and the business context.

Meanwhile, the workshop approach is particularly effective. Results can be achieved quickly in a workshop setting. If workshop participants come from diverse positions and represent a variety of experience and expertise, they can tap their diversity to create a robust knowledge map. The collaborative approach then facilitates agreement among the participants on common knowledge priorities and common plans, processes, and approaches.

## **WHAT ARE KEY SUCCESS FACTORS?**

The technique of process-based knowledge mapping yields the best results when you ensure the following:

The facilitator is central to the success of this technique. He or she needs to be expert in both group facilitation and knowledge mapping techniques. Ideally, the facilitator should also have expertise in the development of business processes. The facilitator should have a detailed methodology for the entire knowledge mapping effort, and be able to customize each knowledge mapping assignment to the needs of the client.

Client ownership for the knowledge mapping workshop and result is essential to the success of the effort. Before the workshop is planned and designed, the business must assign a senior person as the sponsor/owner for the end-deliverable (the knowledge management program plan, for example). This person should be committed to achieving the result, and be willing to allocate resources (people and money) both to the workshop and the work after the workshop.

The purpose of the knowledge mapping must be clearly articulated in terms of objectives and scope of effort. The deliverable likewise requires concrete definition.

The knowledge mapping effort needs to be comprehensively scoped. The approach is only successful if the effort includes planning for the workshop, the workshop itself, and then follow-up to achieve or refine the deliverable.

The knowledge that is mapped should include current knowledge and future needed knowledge. The map is both present and strategic.

The analysis phase of the workshop is crucial to the success of the effort. The facilitator needs to formulate questions that provoke answers that enhance the knowledge map and also help to define and develop the deliverable.

The application phase of the workshop is also important. Some deliverables (such as a knowledge management process) can be completed in the workshop; others (such as a technology design) are begun in the workshop, but mostly developed after the workshop.

All workshops should conclude with an action plan (documenting tasks, owners, and timeframes)

## **WHAT IS THE ULTIMATE VALUE OF PROCESS-BASED KNOWLEDGE MAPPING?**

Since its inception, knowledge management frequently has been described abstractly, overly strategized, and weak in implementation. Conversely, process-based knowledge mapping is concrete and tactical. The knowledge mapping makes tacit and explicit knowledge graphic and visual; the analysis and application phases of process-based knowledge mapping are oriented toward the definition and planning of a pragmatic project or activity, or toward implementation of a knowledge management strategy or program.

And the entire technique has a business focus. The knowledge is mapped and analyzed within a business process. In addition, the knowledge can be prioritized in terms of its relevance to a business or knowledge management objective.