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Gathering Knowledge While It's Ripe

Growing its inventory of knowledge assets enables an enterprise to work faster and move on to new things.

By Mary Eisenhart

It has become something of a cliché in business theory, but that makes it no less true: a large portion of any company's assets reside in the heads of its employees, and a key goal of any knowledge management program is to enable the company to make effective use of those assets.

But making this tacit knowledge--which people accumulate as they do their jobs--explicit can be difficult. In addressing day-to-day responsibilities, employees develop skills and expertise that through repetition eventually become nearly instinctive. This experience increases the productivity of the individual worker, but it also creates a problem. An employee who is no longer conscious of the individual steps in what he or she does probably won't be able to explain the task to a newcomer. If their expertise remains tacit in those employees' heads, others in the company must go through their own trial-and-error experiences to build their own best practices. At least, this is inefficient; in some cases it can cause serious problems.

For example, in mid-1999, Georgia-Pacific Corp., an international forest products company based in Atlanta, faced such a dilemma. Senior management was notified that the company's veteran collections manager had been diagnosed with melanoma, a form of skin cancer, and had been ordered to start chemotherapy. In two weeks he would go on indefinite medical leave.

This manager was the in-house expert in collections and dealing with delinquent accounts--an obviously important function directly related to the company's bottom line. Over the years, he had built a network of relationships with attorneys, collection agencies and credit managers and developed instincts for such issues as when to send a past-due account to a collection agency.

The manager's peers in the credit organization had expertise in their own specialties but only rudimentary knowledge of collections. Within two weeks, Georgia-Pacific had to find some way to make as much as possible of his know-how and work processes available to his colleagues in his absence. The key component of that solution was knowledge harvesting.

Preparing and proceeding

Knowledge gathering or harvesting has a place in almost any enterprise KM strategy. It aims to make tacit knowledge explicit and is well-suited to eliciting information for a clearly defined purpose. It can be used to capture the knowledge of departing employees, facilitate new product development or jump-start a knowledge management project by rapidly generating a body of specialized information from in-house

experts and making it available to colleagues across the company.

Larry Todd Wilson, president of Knowledge Harvesting Inc. in Birmingham, Ala., describes his information gathering approach as a way to help people talk about what they know so that information can be shared with others and ultimately used for competitive advantage. However, for the effort to succeed, conditions must be conducive to harvesting. The first step is to determine whether the enterprise's corporate culture fosters or discourages the practice of sharing.

Successful knowledge gathering and sharing cannot take place in an adversarial, competition-oriented environment where people feel that they would be jeopardizing their own status and job security by giving up knowledge. Therefore, as part of a company's overall KM strategy, management must take steps to encourage sharing behavior across the company so subject matter experts are willing to share what they know. (For more on this issue, see the sidebar "Are You Ready?")

After the enterprise ascertains that its work environment will support the project and that its goals and methods have been made clear to employees, the harvester should meet with management to determine the nature of the expertise the company wants to gather and the business issues surrounding it. A key issue is to identify the target audience who will use the harvested information and their specific needs. The harvester should study existing explicit data pertaining to an expert's specialty within the company (such as existing job descriptions and published documents) and use other techniques such as having the expert and his or her colleagues write profiles of their jobs. In this way the harvester can form a sense of their expertise, where it has gaps and where it overlaps with the knowledge of others.

The central event in the process is a series of interviews with each expert, conducted by a trained knowledge harvester who may be an outside consultant or an in-house specialist. In the course of these interviews, the harvester seeks to identify the expert's valuable practices, clarify information previously discussed and fill gaps with new knowledge. A complete interview also entails extensive refinement by the interviewer before and after the conversations (as outlined in the sidebar, "The Process of Harvesting").

An effective knowledge harvester has certain qualities, according to Dan Fredericksen, a business systems consultant at Georgia-Pacific who studied harvesting techniques with Wilson and works on harvesting projects at his company. Such a person "has good human and interpersonal skills and is good at organizing information on the fly as well as mapping that information," he says. "The harvester can probe and see where the holes are and get to them."

Next, the harvester begins a series of one-on-one meetings with the individual experts. At Georgia-Pacific, for example, this process started with an interview with the departing collections manager; Fredericksen then presented the results to the peers who would be assuming his responsibilities in his absence. The gaps between what he found and what the target audience needed to know formed the basis for the next round of questioning.

Cycling between the expert and the eventual users is essential to avoid wasting time and exhausting their patience. Fredericksen notes two touchstones that the harvester should consider often during the process: "Who is going to use this? Is this unique, or does everybody already know this? You don't want to use the harvestee's time for what is already common knowledge to the target learner."

The desired results

The ultimate goal of knowledge harvesting is to capture an individual's decision-making process with enough clarity that someone else guided by it could repeat the steps of the process and achieve the same result. To get there, the harvester should constantly ask, says Fredericksen, "If I was in this situation, would I get to the same place they did?" If the answer is no, the harvester must focus on filling the gap between what the user currently knows and what is needed to duplicate the expert's practices.

Once the information is gathered, it is edited and presented. The presentation may take the form of a paper checklist or questionnaire, but a more common and useful form is interactive software on the company intranet. Georgia-Pacific tries to reduce the entire decision-making process to yes/no or multiple-choice questions. One of its tools, devised after harvesting the collections manager's knowledge, is a series of questions in a branching structure, which guide the user to define the problem and apply the necessary criteria to solve it. The company tries to capture this activity by keeping records of the interaction--noting things such as what questions are asked in what circumstances, which issues are common or uncommon and points at which people have difficulty--that can provide a knowledge base for future refinements.

Buckman Laboratories International Inc., headquartered in Memphis, was a pioneer in building a knowledge sharing culture and infrastructure. Several years ago the company created an application to support human resources activities. "We harvested the combined thoughts, experiences and knowledge of our top HR gurus to develop a piece of software replicating a best practice in the area of job-description development and performance reviews," says Mark Koskiniemi, vice president of human resources.

The application helps supervisors to have focused, productive and non-threatening conversations with their staff members on their individual roles, responsibilities and objectives within the company, to establish an appropriate developmental plan with each and to understand their performance and its effects on the performance of the company; it is meant to work as if someone from HR was sitting in on the conference. Koskiniemi says that the project took less than a year to complete; that's far less time than it would have taken to send HR people to "handhold each supervisor and associate."

Beyond crisis mode

When Georgia-Pacific learned of the impending knowledge crisis in its credit department, Dan Fredericksen was already familiar with knowledge harvesting. He had concluded that there were numerous instances in which his company could benefit from it, and the crisis of the departing collections manager unexpectedly provided the first opportunity to try it.

Fredericksen and Wilson gathered the information over a six-week period that included some interviews with the manager after he left as well as follow-up with those who assumed his duties. Developers then packaged it as the Web-based tool mentioned above, which guides credit managers through collection recovery processes gleaned from the knowledge of their departed colleague.

Looking beyond the current crisis, Fredericksen says he believes that a harvesting process could save Georgia-Pacific time and money by keeping people from having to reacquire knowledge that already exists within the company. He plans to harvest knowledge from experts across Georgia-Pacific as part of a larger KM strategy to connect individuals within specific disciplines for the purpose of growing knowledge through sharing and collaboration.

For example, he says, the paper-making machines used at various production facilities are generally quite similar, and if those machines ran more efficiently they could produce millions of dollars in savings or increased revenue. While the experts responsible for maintaining the systems had each acquired deep, almost intuitive knowledge of their particular machines, they rarely communicated with their colleagues at other locations. Indeed, the geographic and organizational boundaries would have made it difficult for them to do so.

Realizing good intentions

Aside from the catastrophic error of beginning the harvesting process before the company is culturally ready for it, other issues can affect the outcome adversely. The biggest problem he has encountered, Fredericksen says, is a lack of resources to process the knowledge generated by harvesting projects. "I

wish I'd thought to have more commitment in the area of packaging the harvested material from our information resources department," he says. "I have a lot of harvested knowledge that is just in the queue waiting for someone to be available to put it into usable form."

Left unaddressed, this problem can undermine a harvesting project's momentum. "You have the euphoria of realizing you've captured some great stuff, and your client or the person you're providing the results to is excited. Then you wait, and the excitement wears off," Fredericksen explains. "It's important to keep that excitement going, because that's going to drive other harvesting projects."

Other observers point out the limits of this process. The specific focus of knowledge harvesting can result in a relatively static document, and for knowledge to retain its value it must be continuously refreshed, refined and adjusted to changes in the company's business. Other tools and techniques may be needed to meet those requirements, which should also be part of the company's overall knowledge management plan.

Daniel Rasmus, vice president of strategic knowledge initiatives for Giga Information Group Inc. in Aliso Viejo, Calif., says that while knowledge harvesting theoretically allows for updating and refinement, it may not work over the long term. "Knowledge management is much more about collaboration than about the asset," he says. While there is value in a document, a canned application or another deliverable, it will lose value if it doesn't remain subject to ongoing refinement. Integrating the results of knowledge harvesting into the continuously evolving core documents of a community of practice is crucial in Rasmus's view.

Koskiniemi describes Buckman Labs as being in a continuous process of self-improvement in building its knowledge sharing culture. The overall goal is to foster collaboration, which is often more serendipitous than can be developed in a structured manner. In this light, the harvesting process can produce helpful resources, but it doesn't address situations in which the critical insight comes from an unexpected source. For example, technical experts in Buckman's microbiological control division recently were trying to figure out how to control the growth of a certain organism. Their solution came from an employee in a separate division, who happened to brew beer as a hobby, knew that a similar organism figured in fermentation and explained what brewers do to stop the microbial process. It worked in this case, too.

In the end, knowledge harvesting is only one tool in the KM box. It is suited for collecting what someone already knows. But ultimately Buckman doesn't know where its next insight will come from, according to Koskiniemi. "It could come from anywhere," he says. "We're not out there proactively trying to harvest insights, but we want a field where the crops can grow and produce, and we can harvest them as it becomes appropriate." Tactics include collecting them into searchable documents or abstracts so the next person or group working on a similar problem can retrieve them. "We don't have to reinvent the wheel or rely on serendipity to solve a problem we've already solved," he says. Instead of wasting time on redundant issues, employees can focus on doing new work that adds value to the company. And that's the larger point of knowledge management.

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The Process of Harvesting

According to Knowledge Harvesting Inc., the process of harvesting tacit knowledge from experts involves the following steps (which may be repeated several times in the course of a project).

Focus: Determine what knowledge is being sought and the business reason driving the process (for example, improving quality control or retaining the knowledge of senior employees). Choose the appropriate strategies and techniques for eliciting that knowledge.

Find: Identify the experts whose knowledge is being sought and prepare to interview them by studying existing documentation pertaining to their jobs.

Elicit: Interview the experts.

Organize: Categorize the resulting information in a manner appropriate to the task.

Package: According to the needs of the enterprise and the target audience, deliver the harvested knowledge in tangible form (usually Web-based software).

Share: Publish the knowledge in an electronic repository available to colleagues.

Apply: In the course of their daily work, employees access the archived knowledge as needed.

Evaluate and Adapt: Based on factors such as a changing business environment, feedback from users and the results of ongoing harvesting, maintain the repository to keep it relevant and timely.

Are You Ready?

If knowledge harvesting is to be productive, it must take place in an environment where people are comfortable with sharing knowledge. The indispensable first step of any knowledge harvesting process, according to Carl Frappaolo, executive vice president of the Delphi Group Inc. in Boston, is to conduct a knowledge audit. This is "a benchmark of where the organization is from a technical standpoint, a leadership standpoint, a work habits standpoint, a cultural standpoint, a communication pattern standpoint and a team structure standpoint," he explains. "It will give insight as to whether the whole process of knowledge harvesting is going to be perceived as beneficial. If the audit reveals that your organization is not ready, you could do all the harvesting you want, but it won't be viewed as valuable or utilized." (For a full discussion of knowledge audits, see "Knowing What Your Company Knows," December 2000 *KMM*.)

One type of organization that is not ready, Frappaolo says, consists of individuals who think in an insular fashion and believe that knowledge is of interest only to a narrowly defined group. They may feel this way because they don't want to share knowledge or because they lack the capability to do so; either mindset is a problem that must be addressed.

Another type of company that is unprepared, he says, has a corporate culture or a senior management style that sends the message--whether overtly or subliminally--that people are not rewarded for sharing and are better off guarding their knowledge. If departments have to compete for resources or if knowledge sharing and innovation are not included in job descriptions and incentives, the environment is not conducive to knowledge harvesting.

The situation can be particularly bad in companies with extensive patent portfolios, where everyone jealously guards intellectual property. "The company needs to watch out not only that sharing isn't going to go on but that the intellectual capital is going to be lost as people walk out the door," Frappaolo says. These companies send the message that they don't value collaborative innovation, only "dumb" products and the management of patents. (Dumb products are not tied to an innovative, ongoing lifecycle but rather are treated as cash cows.) "You can only live so long on dumb products and patents, but you can live forever on collaboration and innovation," Frappaolo adds. "To give the business a strategic advantage, you've got to fix those problems first," he says. Such fixes may require complex changes to the status quo. "That may mean changing the way individuals currently leverage certain core competencies," Frappaolo continues. "It may mean changing the way the culture is instilled and the way people think about the value of sharing what they know with other individuals. It may mean you have to change the way teams get structured and rewarded. All that needs to be put in place" before asking people to share.

How long this process takes varies according to the company, its culture and the way it compensates people. Larry Todd Wilson, president of Knowledge Harvesting Inc. in Birmingham, Ala., reports that he is only starting to do knowledge harvesting with a large insurance company whose CEO was interested in harvesting two years ago but realized the company wasn't ready. Wilson has spent the intervening time laying the appropriate groundwork. "The audit can take anywhere from a month to a year, depending on the approach you use," says Frappaolo. "The big variable comes after that. If you're up against technology and infrastructure problems, that's solved relatively easily. If you're up against a multiyear legacy of building attitudes and cultures that are counter to knowledge sharing, then it's probably going to take more time or some drastic moves." There's no benchmark for how long it may take to prepare an organization to share knowledge. Each company must find this out for itself. --*M.E.*