SMART

COMPANIES

BY PATRICIA A. GALAGAN
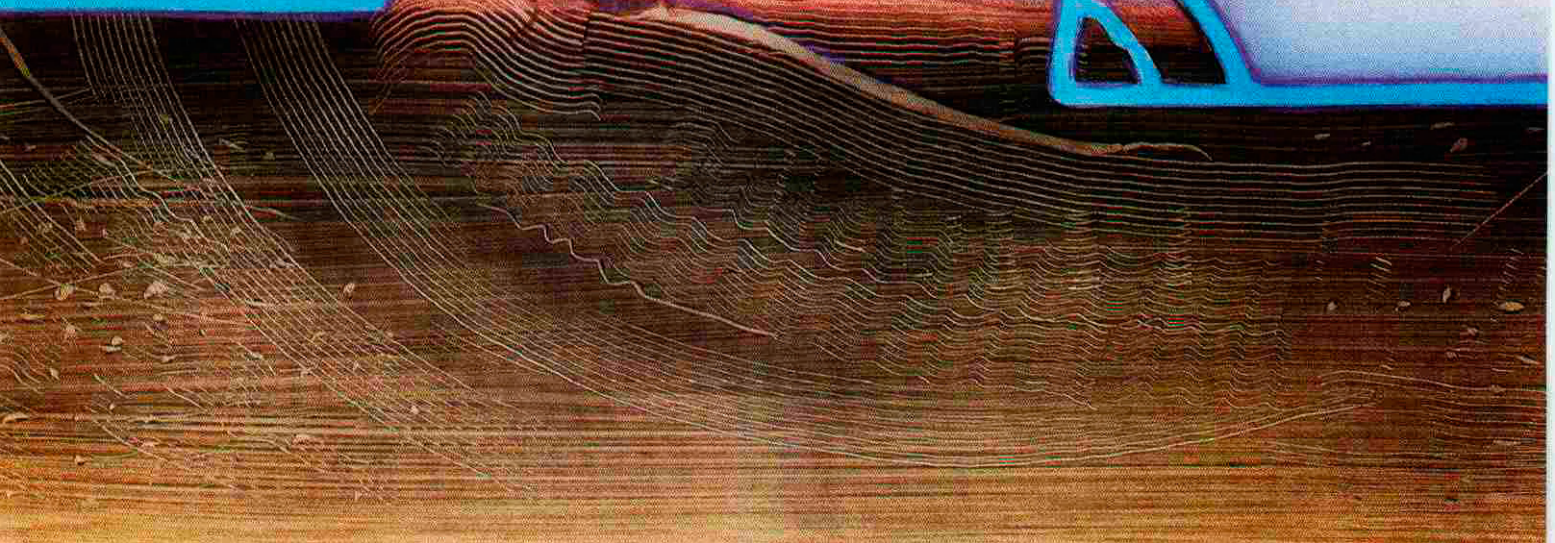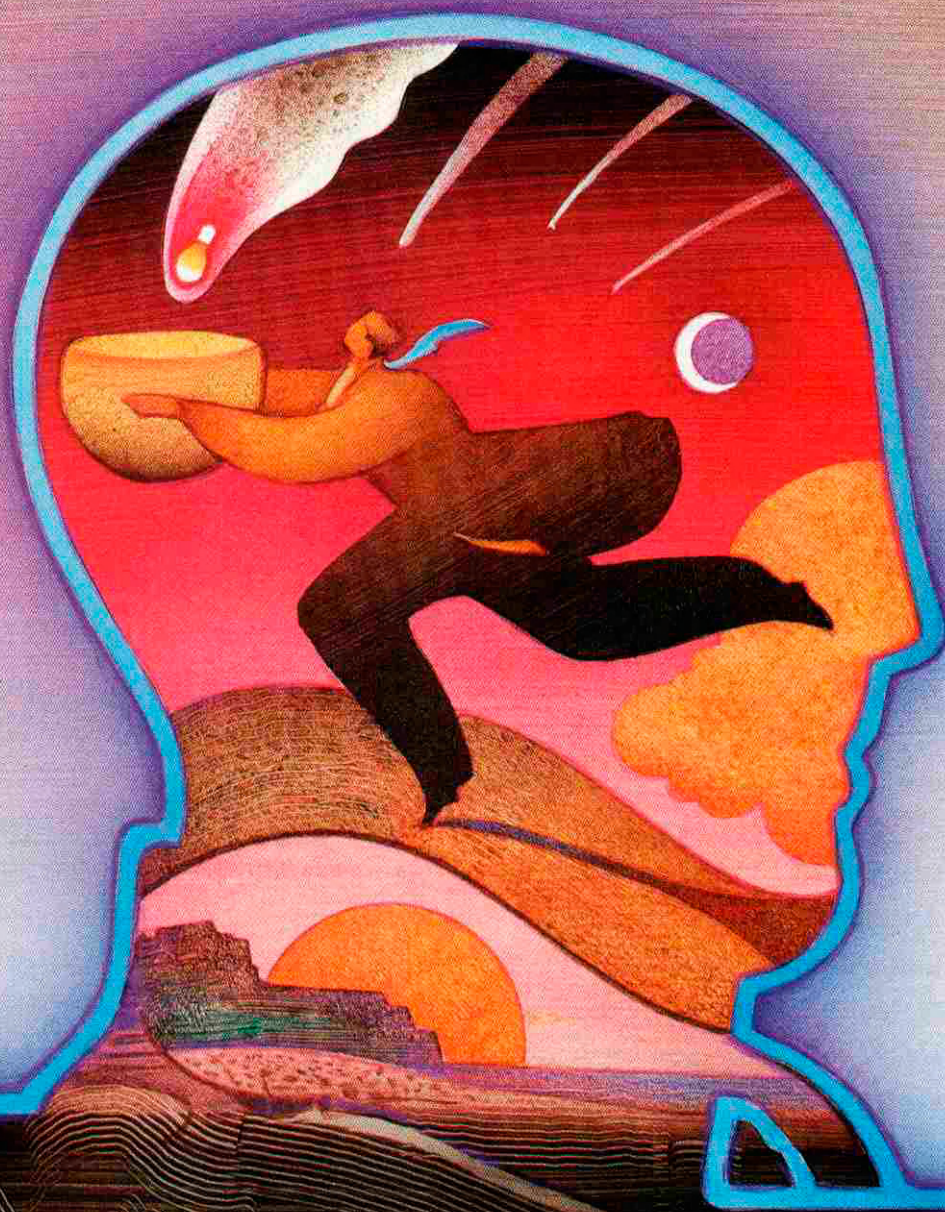
Capturing and leveraging knowledge is an important new management trend.
Here's what's happening in companies that are serious about brainpower.

It's day 1 of a new project. What's the first thing you do? Call together some people and ask for a brain dump? Point your Web browser in the direction of some likely sources? Corner a subject matter expert in the hall and grill her till she begs for mercy?

And what happens when the information starts flowing in? If you're a good information scrounger, you'll be drowning in data. Then you have to read it, sort it, evaluate it, and figure out how you can make it work for you. And all the while not let yourself be sucked into the fascinating tributaries of irrelevant information that will tempt you away from your goal.

Multiply your efforts by all of the people in your company who work with ideas as raw material and you have a picture of why managing knowledge is a major business trend. Companies that run on knowledge—that's pretty much all companies these days—need ways to turn employees' knowledge into a managed asset.

Unlike traditional raw material, knowledge usually isn't coded, audited, inventoried, and stacked in a warehouse for employees to use as needed. It's scattered, messy, and easy to lose. To make it manageable—more like traditional raw material—companies are trying to capture and share knowledge that's out there in employees' heads and laptops. To make it more like an asset that can be leveraged, some are also attempting to manage the unruly processes that turn knowledge into profitable products or services.

Companies that manage knowledge are home to a new breed of high-level managers who go by such titles as chief knowledge officer, chief learning officer, and director of intellectual capital. Many have a technology background, but their roles extend to strategy, market analysis, and, yes, training. To date, there's no career path to this job. Head knowledge managers have bubbled up through many parts of the organization. Bipin Junnarkar, director of knowledge management at Monsanto, is an engineer but says his focus now is "on social and management sciences" because they're important to the human interactions that create knowledge. Dave Ledet, director of shared learning at Amoco, came to his job through work on the company's quality programs.

Knowledge management is serious, high-level business for companies in which innovative brainwork translates directly into products and profits. But a big problem most of them encounter is how to define knowledge. Amoco, a worldwide integrated petroleum and chemical company, started work on capturing, storing, transferring, and using knowledge in 1996. At the start, the company opted for a very broad definition: everything that wasn't a hard asset. "Now we're working on defining categories of knowledge and knowledge transfer processes," says Ledet, "but we're still in the early stages." Monsanto's Junnarkar says, "I have personally tried to stay away from definitions."

Monsanto, with a strong knowledge management program in its life sciences division, doesn't define knowledge formally but does break it into categories called *explicit* and *tacit*. "Explicit knowledge is what can be captured and shared with information technology," says Junnarkar. "Tacit knowledge evolves from people's interactions, and requires skill and practice."

"We need to teach the skills for tacit learning and cultivate the roles that go with it," he says. "The secret is in the interaction: people with people, and people with information." This is what Junnarkar calls the social scientist part of his job. He has observed other companies pouring information into Lotus databases, only to find that those are places no one ever visits.

Culture

Whatever their formal plans, many companies that attempt to manage knowledge soon find themselves deep in the business of changing their cultures. Even in companies in which know-how is a big deal, people don't share it readily or naturally. Employees aren't encouraged to talk about what they learn or even admit they need to learn something. Reading or browsing the Internet is often considered the behavior of slackers.

Amoco spent the first year of its knowledge management effort getting people in the habit of learning and sharing. "They are willing," says Ledet, "but it takes practice to become good at it." Learning is considered everyone's job at Amoco, from the pure knowledge workers to people who work in field and plant locations.

Amoco divides learning into these steps:
■ Learn *before* doing: Find the best-known way it has been done so far.
■ Learn *while* doing: Adapt that learning to the task at hand.
■ Learn *after* doing: Decide what you learned and capture it.

Ledet has found some things that make useful learning more likely to happen. One is focus. "Have a relevant business objective for the learning," he advises. Technology has made it so easy to amass information that it can get in the way of acquiring knowledge that has strategic value for a company.

Alignment between people's aims and those of their company helps the process along. "We ensure that our performance management and reward systems all reinforce shared learning," Ledet says. At the same time, he looks for ways to fight complacency, internal competition, and the natural tendency to repel new ideas as if they were an invading enemy.

Support people's efforts at learning. At Amoco, that means access to databases of effective practices, benchmarking studies, models, and tools. It also means plenty of coaching and training in learning practices.

In discussions about managing knowledge, Ledet says, "The issue of time always comes up first. Our greatest challenge is creating opportunities for people to spend time learning." One successful approach is to create formal learning networks so that the identification and transfer of effective practices becomes part of the job.

At Monsanto, the knowledge management team discovered that learning roles had to be formalized to make people feel it was "legal" to spend time at them. Now there are several formal roles, including knowledge stewards, knowledge editors, knowledge librarians, and a role that every company surely needs—the knowledge cross-pollinator.

Collecting knowledge is the easy part of knowledge management, according to Junnarkar. "We're not constrained by information; we are constrained by sense making. We are not constrained by ideas but by what to do with them." For connecting tacit and explicit knowledge, he recommends a framework described in *The Knowledge Creating Company* by Nonaka and Takaeuchi.

"The whole company should be in the business of creating knowledge. Information is the input and insight is the output. The box in-between is knowledge creation," says Junnarkar, a former engineer. Instead of expecting individuals to handle ever-greater amounts of information, he recommends that groups work on making sense collectively. "This is the real challenge for training and development people."
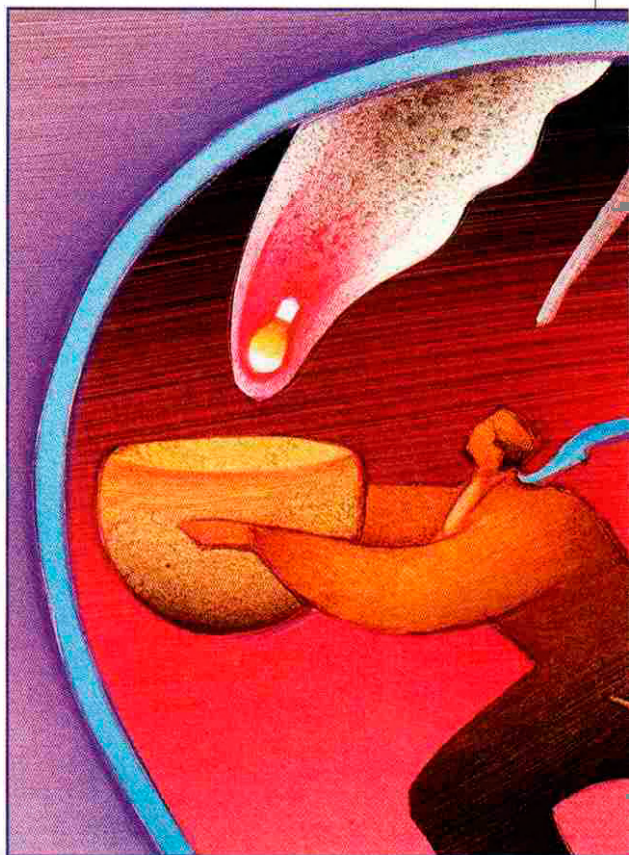
Consulting firms

Consulting firms are well-known pioneers in managing knowledge. More than 20 years ago, McKinsey & Company, a Boston-based management consulting firm, set up work groups to develop knowledge in two areas at the heart of its practice: strategy and organization. One of the first recruits to the organization area was a young Ph.D. grad named Tom Peters.

A knowledge infrastructure soon arose, in spite of a deep suspicion about the packaging of ideas. In 1987, McKinsey launched a formal knowledge management project. By then, it had a database of client engagements. The next step was to make it more than an archival record. According to one source, partners had to be "ca-

joled, begged, and challenged" to document their core knowledge. People known as "practice coordinators" were at first regarded as little more than record keepers. After several years, when the role was taken on by respected consultants, the company's databases of practices began to grow.

The knowledge management

Ernst & Young has been focusing on knowledge management as a major business process since 1993. "We're trying to leverage our intellectual capital and reuse our practice-based experience to a very high degree and to do it in a structured fashion," says Loehr. To help employees share and reuse knowledge, E&Y

so find out whether Ernst & Young has any specific relationships with academic researchers who cover the industry.

Databases on major topics can become huge, so Loehr's team organized groups of Ernst & Young partners to distill company data into "PowerPacks" of customized information. Employees can download them to their computers. None takes up more than 50MB of storage space. To keep them up-to-date, interns bookmark relevant Internet sites for review. New information is downloaded automatically each time an employee goes into the E&Y global network for an update.

Two jobs at Ernst & Young are essential to making the knowledge network a useful tool. One is database content manager. Typically, that is a subject matter expert who's responsible for the quality of the content. Another job is knowledge network coordinator—a consultant or coach to the people in the networks. Knowledge network coordinators need to be comfortable with such tools as Lotus Notes and Internet browsers. But their main role, according to Loehr, is to drive change in the organization. "If you want people to work with information and content and do it in a way that displaces labor, then you need to change the basic things they do every day. We're trying to change the way people around the world do their jobs."

Many of Loehr's network coordinators have a training background. "A lot of our work happens in groups so we need people who can take them through a day of work and come out with good, active results. And we need people who are comfortable in front of groups."

Ernst & Young's Center for Business Knowledge strives to help people get to the right information fast. The center has begun to adapt its own information researchers' tools for everyone in the company. A service, Infolink, delivers more than 60 newspapers and magazines to all 23,000 U.S. employees via their computers.

Infolink users can set up profiles of their topics of interest. The profiles help the software pick out articles to send to a requester's email box.

EXAMPLES AND PROCESSES

SOME EXAMPLES OF INTELLECTUAL CAPITAL.

▶ Emerging technologies
▶ Competitor information
▶ Customer information
▶ Effective practices
▶ Market trends
▶ Regulations and legislation
▶ Competencies and capabilities
▶ Patents and licenses
▶ Formulas
▶ Employee directories and resumes
▶ Conference and meeting notes
▶ Innovations

SAMPLE KNOWLEDGE MANAGEMENT PROCESSES.

▶ Generating new knowledge
▶ Accessing knowledge from external sources
▶ Representing knowledge in documents, databases, software, and so forth
▶ Embedding knowledge in processes, products, or services
▶ Transferring existing knowledge around an organization
▶ Using accessible knowledge in decision making
▶ Facilitating knowledge growth through culture and incentives
▶ Measuring the value of knowledge assets and the impact of knowledge management

SOURCE: JULIA KIRBY, CENTER FOR BUSINESS INNOVATION, ERNST & YOUNG

process at that point relied heavily on personal networks. It languished until 1994, when the new managing director, Rajat Gupta, made it one of his priorities and created some new channels for learning. One was the Practice Olympics, a firm-wide event in which regional teams compete in presenting ideas they have gained from working with clients.

Today, consulting companies and others that trade in what they know are investing millions in major strategy initiatives to manage knowledge as a competitive advantage. Says Dick Loehr, a director of the Center for Business Knowledge at Ernst & Young, "This is not an optional exercise in our business. It's not a question of how do you do it. It's how do we get it right."

has created what Loehr calls "communities of interest." Right now, there are 70 such companywide networks of people with common interests and expertise. Each one is supported by its own database of wide-ranging information.

In a network focused on the auto industry, members would share knowledge about the industry and about the issues that concern its top players. A networker could find out about product development times, what kind of software automotive companies are choosing, or what they're doing about sourcing problems in the Asian market. In the network's database, they'd find out who has deep background on the industry, what's in their resumes, and where they've been speaking. They could al-

"We've tried to make it as simple as possible to create search statements," says Loehr. "If they aren't right, the signal-to-noise ratio can be pretty bad."

Ernst & Young has begun to offer connectivity with clients. This requires discipline. "We can tolerate a certain amount of messiness inside," Loehr says, "but when you open up to your clients, you have to be a lot more specific and committed to a persistent flow of information."

The company's regional libraries are being changed and their contents poured into a central database for the whole company to use. The librarians are now part of Knowledge Services, which helps with navigation, research, and analysis.

The Center for Business Knowledge is the enabler of knowledge management at Ernst & Young, according to Loehr. It handles content architecture; the application, definition, and design of knowledge bases; the contracts for buying external content; competitive intelligence; research and analysis services; and the knowledge network program. Priorities and strategy are set by knowledge process committees in each business unit. At the top of the heap is the chief knowledge officer, who reports to the head of finance and technology.

Coopers & Lybrand has its own version of knowledge management, the Knowledge Management group. It oversees strategy, technology, and learning. Recently, Coopers & Lybrand launched the Knowledge-Curve, an intranet that puts all kinds of company and competitor information in one easy-to-reach place. C&L estimates it can save more than $1 million a year if the intranet shaves just one hour a week from the time that auditors and consultants spend looking for information.

One button on the intranet's splash page links to the Websites of C&L clients. Need the name of an expert in privatization in Latin American utilities? Just click on the People button. Via the link (the extranet portion of the site, C&L Web Products), subscribers can get daily tax legislation updates or ask questions of C&L tax experts. Through the CyberLyb, visitors can troll for stock quotes, exchange rates, and the answers to questions most frequently asked of C&L experts. The Help button will walk employees through the creation of their own Webpages. All Websites mentioned in the KnowledgeCurve have been checked out by the Web Content Team, which rejects any that aren't reliable, accurate, or up-to-date.

The future

Managing knowledge is a pretty undefined process at this point. What kind of knowledge do you include or exclude? How do you extract usable knowledge from hallway conversations and chance meetings? How do you teach knowledge workers to read efficiently? How do you avoid letting email substitute for conversation and Lotus Notes substitute for exchanging ideas face-to-face? How do you connect people so that tacit learning can take place? Ernst & Young has spelled out some knowledge management processes (see the box on page 23), but most companies are groping with the task of capturing, sorting, and sharing their knowledge.

Other companies are attempting to account for their intellectual capital and apply it to company balance sheets. Still others are trying to build a vocabulary for what promises to be a significant movement in business. (See Laurie Bassi's article on the next page for more details about those two areas of knowledge management.)

As with any new development in management, people are asking whether this one is a fad. Thomas Stewart, a reporter for *Fortune*, has been covering the topic of intellectual capital for several years. His recent book, *Intellectual Capital*, describes the movement in compelling detail. In his view, the one area that could become a fad is knowledge management, because of the money to be made on the hardware and software that it relies on.

The terrain of knowledge management is changing even as it is being explored. "How you share things, and how you get your hands on things, will change dramatically. What we do now will look pretty crude in five years," says Loehr. "This is work that never reaches its endpoint." ∎

Patricia A. Galagan *is editor of* Training & Development; *703.683.8133; pgalagan@astd.org.*