
The knowledge economy demands a new kind of executive, one who freely shares ideas and expertise across the company while remaining fiercely committed to business unit performance. But T-shaped managers must be carefully cultivated. Here's how.

Introducing T-Shaped Managers

Knowledge Management's Next Generation

by Morten T. Hansen and Bolko von Oetinger

The knowledge economy demands a new kind of executive, one who freely shares ideas and expertise across the company while remaining fiercely committed to business unit performance. But T-shaped managers must be carefully cultivated. Here's how.

Introducing T-Shaped Managers

Knowledge Management's Next Generation

by Morten T. Hansen and Bolko von Oetinger

Despite their best efforts, most companies continue to squander what may be their greatest asset in today's knowledge economy: the wealth of expertise, ideas, and latent insights that lies scattered across or deeply embedded in their organizations. And that's a shame, because capitalizing on those intellectual resources—using existing knowledge to improve performance or combining strands of knowledge to create something altogether new—can help companies respond to a surprising array of challenges, from fending off smaller, nimbler rivals to integrating businesses shoved together in a merger.

Many companies have tried, with mixed success, to leverage this underused asset by centralizing knowledge management functions or by investing heavily in knowledge management technology. We suggest another approach, one that requires managers to change their behavior and the way they spend their time. The approach is novel but, when properly implemented, quite powerful.

We call the approach *T-shaped management*.

It relies on a new kind of executive, one who breaks out of the traditional corporate hierarchy to share knowledge freely across the organization (the horizontal part of the "T") while remaining fiercely committed to individual business unit performance (the vertical part). The successful T-shaped manager must learn to live with, and ultimately thrive within, the tension created by this dual responsibility. Although this tension is most acute for heads of business units, any T-shaped manager with operating unit obligations must wrestle with it.

You might ask, Why rely so heavily on managers to share knowledge? Why not just institute a state-of-the-art knowledge management system? The trouble is that, while those systems are good at transferring explicit knowledge—for example, the template needed to perform a complicated but routine task—direct personal contact is typically needed to effectively transfer implicit knowledge—the kind that must be creatively applied to particular business problems or opportunities and is crucial to the success of innovation-driven

companies.¹ Furthermore, merely moving documents around can never engender the degree of collaboration that's needed to generate new insights. For that, companies really have to bring people together to brainstorm.

Effective T-shaped managers will benefit companies of almost any size, but they're particularly crucial in large corporations where operating units have been granted considerable autonomy. Although giving business units greater freedom generally increases accountability, spurs innovation, and promotes sensitivity to local market conditions, it also can lead to competition between units, which may hoard, rather than share, expertise. By encouraging collaboration, a T-shaped management system can be a powerful counterbalance to such negative behavior.

Our research over the past six years suggests that few companies have recognized T-shaped management as a key to success and even fewer have enjoyed its benefits. So how do you successfully cultivate T-shaped managers and capitalize on the value they can create?

Energy giant BP Amoco—a sprawling enterprise with over 100,000 employees and operations in 100 countries—provides some provocative answers. Our in-depth examination of BP's management practices, including interviews with more than 25 business-unit and corporate managers, highlighted five specific types of value that T-shaped managers can generate. BP's experience also suggests guidelines for creating an environment in which T-shaped managers will flourish. Such guidelines are important because the benefits of T-shaped management won't be realized—will even become liabilities—if the concept is poorly implemented. A key insight: senior executives must put in place mechanisms that simultaneously promote and discipline managers' knowledge-sharing activities.

BP's Evolving Approach

The story of BP's ongoing effort to create an effective T-shaped management system is instructive in part because of a number of initial missteps the company made along the way. Indeed, the entire history of the T-shaped manager at BP is one of continually fine-tuning the tension between the manager's horizontal and vertical roles, an evolution that continues to this day.

The seeds of BP's T-shaped management ap-

proach were planted in the early 1990s at the oil and gas exploration division of what was then British Petroleum. In a successful bid to cut out layers of management and improve performance and financial accountability, the division—known as BPX and headed at the time by BP's current chief executive, John Browne—was divided into nearly 50 semiautonomous business units. But because business unit leaders were personally accountable for their units' performance, they focused primarily on the success of their own businesses rather than on the success of BPX as a whole.

With the ultimate aim of making BPX more valuable than the sum of its business units' results, Browne and his executives set out to encourage greater understanding of the goals and challenges of other units and of BPX as a whole. Early in 1992, they established "peer groups," in which leaders of roughly a dozen business units engaged in similar types of businesses met to discuss the strategic and technical challenges they all faced. The important thing about these meetings was that senior management wasn't allowed in the room. That reduced posturing and encouraged candor.

But over time, BPX's senior management realized that simply sharing knowledge for knowledge's sake—the creation of "learning loops," as one executive put it—was only marginally productive. So in 1994, the peer groups became more results oriented, assuming responsibility for allocating capital resources among business units in the group and for setting unit performance targets. In both cases, the aim was to further the broader interests of the entire peer group and help it meet its own goals, which were set by the BPX executive committee.

Not surprisingly, this approach initially caused considerable friction among the business unit leaders. "People were very combative about why their pet project merited investment," recalls John Leggate, who ran several BPX business units during this period. "But over time, and with some due process instituted within the groups, business unit leaders gradually became less partisan and thought about the bigger result." In fact, the unit heads began to see the benefits of this collaborative approach, including the opportunity to tap the knowledge and expertise of other units.

In 1995, when Browne became BP's CEO, he rolled out this system of collaboration and net-

Morten T. Hansen is on leave as an assistant professor of business administration at Harvard Business School and is currently a manager in the San Francisco office of the Boston Consulting Group. **Bolko von Oetinger** is a senior vice president in the Munich office of the Boston Consulting Group and is the director of the firm's Strategy Institute.

working across the entire company. Since then, BP has become known for its knowledge-sharing practices.² Less known is BP's realization that, despite the clear benefits of such a system, you can overdo it.

For instance, BP had encouraged the formation not only of peer groups but also of cross-unit networks focused on areas of shared interest. Over time, this idea flowered into an unforeseen number of networks and subnet-

works (the "helicopter utilization network" was one), which consumed increasing amounts of managers' time. An audit within BPX alone identified several hundred of these networks. "People always had a good reason for meeting," says Leggate, who is now BP's group vice president for digital business. "You're sharing best practices. You're having good conversations with like-minded people. But increasingly, we found that people were flying around

Companies on the Road to T-Shaped Management

Our close examination of BP grew out of a study we conducted of a group of large, global companies that seemed likely to have effective practices for sharing knowledge across units. We conducted interviews with executives at 30 companies, about one-third of them located in Asia, one-third in Europe, and one-third in the United States. The companies represented a wide array of industries, including computers, biotechnology, paper, steel, pharmaceuticals, consumer goods, banking, and high technology.

Although we had, through media searches and discussions with our colleagues, identified in advance those companies that emphasized cross-unit links, we found that few actually benefited broadly from cross-unit learning and collaboration. Many had tried to implement linking mechanisms; they just didn't work very well. For example, several executives described attending frequent off-sites, informational meetings, and conferences convened in the belief that such gatherings would result in greater cooperation and knowledge sharing across units. The problem was that these, on their own, weren't effective. In the words of one manager, "we meet to agree to disagree and schedule another meeting."

In fact, only BP regularly realized the full array of value-creation possibilities we identified in our research. But a handful of companies have had some success collaborating across business and country boundaries.

- **GlaxoSmithKline.** The pharmaceutical company has benefited by encouraging the cross-pollination of ideas through information matchmakers, which we call "human portals." One day, for example, V. Thyagirajan, an area director located in

Singapore, received a phone call from Glaxo's managing director in the Philippines, who was looking for new products formulated for his local market. Thyagirajan set up a meeting with the Glaxo managing director in Mumbai, India, someone Thyagirajan knew was also interested in local product development. In a visit to an R&D lab outside Mumbai, the Philippines executive saw that the Indian product developers were working on line extensions of existing antituberculosis medication, a family of drugs not emphasized at the corporate level of the UK-based company. The lab visit sparked a joint effort between the teams in India and the Philippines, and a Philippine researcher moved to the Mumbai facility to help develop new products. The team first came up with a modified anti-TB medication formulated specifically for the Philippines and has subsequently developed other products for the Philippine market.

- **Siemens.** Three years ago, the large German industrial company launched a training program that brings high-potential managers from different divisions together in small teams to solve a problem facing one of the business units. So far, more than 100 teams have been formed. Team members work together for about a year, which includes attending several weeklong meetings at an off-site corporate campus. They then make recommendations to the business unit manager involved, who serves as the team coach during the project. Through the program, team members develop their business skills, build infor-

mal relationships across business units, and save the company money—more than \$10 million so far—by solving real business problems.

- **Ispat International.** Senior executives at this London-based global steel maker have institutionalized several simple mechanisms for sharing knowledge across their far-flung units that could easily be implemented in companies from many other industries. One is Ispat's policy of cross-directorships, which requires the general manager of every operating unit to sit on the board of at least one other unit. The managing directors of Germany and Trinidad, for instance, sit on each other's boards because they both produce "long" steel products, such as rods and other structural materials. This peer oversight encourages units to adopt best practices from other units—for instance, Germany's successful downsizing initiative. Managing directors of each operating unit also join together every week for a phone meeting that lasts no longer than two hours. Managers report exceptions, nonroutine activities, and things that, in company parlance, "keep them awake at night." In one recent call, the managing director in Trinidad mentioned problems he was having with a transformer that repeatedly failed. As it turned out, managers in Mexico and Canada had similar transformers and were having similar problems. The three units ended up cooperating on both troubleshooting and buying the expertise to perform repairs.

the world and simply sharing ideas without always having a strong focus on the bottom line.” So the company again tightened the reins, reducing the number of networks and limiting cross-unit meetings to those concerned with specific business results.

Technology has played a role in these knowledge-sharing activities. BP has an elec-

tronic “yellow pages” that identifies experts in different areas. And the company early on developed sophisticated digital-networking capabilities, such as multimedia e-mail and desktop videoconferencing, which enable managers to gather and work across business units in virtual teams. But technology has its limits. The expert directory quickly falls out of date and

A T-Shaped Workweek

A typical workweek for David Nagel, BP’s gas business unit head in Egypt, shows how he balances his vertical (business unit) and horizontal (knowledge-sharing) responsibilities. (The workweek in Cairo runs from Sunday through Thursday.)

SUNDAY, OCTOBER 22	WEDNESDAY, OCTOBER 25
<p>AM</p> <ul style="list-style-type: none"> Egypt gas business-unit team meeting: progress versus the performance contract <p>PM</p> <ul style="list-style-type: none"> Meet with UK representative from Barclays Bank Meet with UK government trade mission to Egypt Team meeting with Egypt oil business unit leader on safety, commercial deals, and government and public relations Note to fellow board members of local community services association (which provides services to expatriate BP employees) on simplified accounting practices 	<p>AM</p> <ul style="list-style-type: none"> Fly to London; review business unit correspondence <p>PM</p> <ul style="list-style-type: none"> Peer group teleconference on financial submissions, upcoming meeting agenda Meet BP Algeria oil business unit leader (peer group member) to discuss future production opportunities
MONDAY, OCTOBER 23	THURSDAY, OCTOBER 26
<p>AM</p> <ul style="list-style-type: none"> Meet with Egyptian gas utility (partner on new project) <p>PM</p> <ul style="list-style-type: none"> Chair Egyptian Petroleum Industry Environmental Protection Committee meeting Meet with BP oil traders from London regarding opportunities in Egypt 	<p>AM</p> <ul style="list-style-type: none"> Peer assist to Algeria gas business unit E-mails on business unit promotions, individual development plans <p>PM</p> <ul style="list-style-type: none"> Discussion with Spanish gas and power business unit leader on LNG opportunities Fly to Cairo; review speech for upcoming BP GasTech Conference in Houston
TUESDAY, OCTOBER 24	FRIDAY, OCTOBER 27
<p>AM</p> <ul style="list-style-type: none"> Meet with BP project management leader in Cairo to discuss new approach to project management in Egypt Check roles and responsibilities on BP emergency plans for Egypt Conference call with BP downstream organization (refined products and retailing) about opportunities in Egypt <p>PM</p> <ul style="list-style-type: none"> Career discussion with gas unit staff members LNG (liquefied natural gas) project review Review financial projections for peer group Seek peer input via e-mail on next steps for key project 	<p>AM/PM</p> <ul style="list-style-type: none"> Finalize peer group performance submissions for 2001 <p>KEY</p> <ul style="list-style-type: none"> Business unit activities Cross-unit activities

The entire history of the T-shaped manager at BP is one of continually fine-tuning the tension between the manager's horizontal and vertical roles, an evolution that continues to this day.

often fails to fully capture exactly what each person knows. And executives say that well-developed relationships, nurtured through face-to-face interaction, are fundamental to successful virtual teams.

As shortcomings have emerged, BP has modified its knowledge-sharing system. One sign of the system's strength has been its ability to function even as BP undertook the mammoth task of integrating the disparate cultures of two acquired rivals: Amoco in 1998 and ARCO last year. "The real value of mergers lies in the scope they offer for learning from a wider base of experience," says Browne. "We've begun to do that and, as we live through the process, we see more and more potential. Still, the process of leveraging the learning is itself a learning experience." The leap in scale and global presence that resulted from the mergers, for instance, has prompted BP to reorganize business units into new groups more strategically focused than the former peer groups. The evolution will continue, executives say, as strengths and weaknesses of the new system appear.

The T-Shaped Manager in Action

To get an idea of how BP's system works in practice, let's take a detailed look at an individual T-shaped manager.³ David Nagel, BP's gas business unit head in Egypt, joined the company as a result of the Amoco merger and quickly found a key difference between his former and current employers. "Before, if you needed help in a particular area, you'd go to Houston for assistance," he says, referring to the former headquarters of Amoco's oil and gas business. Today, Nagel typically seeks help from his peers in other business units and often reciprocates, as well.

Like all BP business unit managers, Nagel has a two-part job description. He is effectively CEO of his business unit, with profit-and-loss, balance sheet, capital expenditure, and other responsibilities. These are spelled out in a personal annual performance contract he has with his boss, one of BP's group vice presidents. At the same time, Nagel is expected to engage in a variety of cross-unit knowledge-sharing activities, which he estimates consume somewhere between 15% and 20% of his time.

To ensure that his horizontal activities don't undermine the goal of outstanding unit performance, Nagel must carefully manage his time

and energy. (See the exhibit "A T-Shaped Workweek.") That means continual self-monitoring to be sure that cross-unit activities in fact serve an important business purpose. "We've tried to eliminate the peer group meetings that are held just for the purpose of saying, 'We had a peer group meeting,'" Nagel says. "We recently canceled one that made sense when we scheduled it but that doesn't make sense anymore because the issues have changed."

The dual demands also have required him to delegate some business unit responsibilities, particularly gas exploration and production, to two trusted lieutenants. That frees him for tasks extending beyond his business unit.

The ones that involve knowledge sharing can be characterized quite simply: in a broad corporate context, Nagel collaborates, connects, gives, and takes.

He *collaborates* in a peer group comprising his business unit and seven others throughout the Mediterranean and Atlantic regions that, like his, are focused on increasing gas production. In fact, he is the facilitator of the group, responsible for convening the meetings and working to move its members toward agreement on the often thorny and challenging issues of exactly how to allocate capital and meet those peer-group production targets set by his division's executive committee. In September, the group determined, based on each unit's projections, that it was likely to fall about 3% short of its goal for 2001. Through some intense discussion over the course of the next two meetings, the group determined which business units were in the best position to close that gap.

Nagel also occasionally *connects* people from different parts of the company. For example, he may get a call from a legacy BP engineer seeking the name of a legacy Amoco engineer who could offer advice in an area in which Amoco was known to have particular strengths.

Nagel *gives* advice to other business units, when requested by individuals both within his peer group and beyond it. Last year, he and his managers were involved in roughly 20 such "peer assists" to other BP units; Nagel was personally involved in three of them.

And Nagel *takes* advice from other units. Last year, his business unit benefited from roughly ten peer assists, in which people came from around the world to offer specific ideas

on such issues as his unit's marketing plan. Sometimes the help comes more informally. Shortly after the merger, an engineer in Nagel's unit tapped into his network of BP contacts and determined within several days that the productivity of a particular type of well being drilled in Egypt could be tested without "flaring" it—that is, without opening it up and burning off some gas. This allowed speedy evaluation of the well while avoiding environmental concerns about flaring that had arisen unexpectedly.

Why didn't Nagel seek help from headquarters, as he might have done at Amoco? "The model here is an open market of ideas," he says. "People develop a sense of where the real expertise lies. Rather than having to deal with the bureaucracy of going through the center, you can just cut across to somebody in Stavanger [Norway] or Aberdeen [Scotland] or Houston and say, 'I need some help. Can you give me a couple of hours?' And that is expected and encouraged."

Creating Horizontal Value

T-shaped managers like David Nagel create vertical value for BP in the form of strong business unit results—a top managerial priority at a company that emphasizes business unit accountability. They create horizontal value in one of five distinct ways, which progress up the value-added ladder from the exploitation of existing resources and knowledge to the exploration of new opportunities. The benefits at the lower end stem from traditional knowledge transfer; those at the upper end require collaboration to create new ideas.

Increasing Efficiency Through the Transfer of Best Practices. Deborah Copeland, head of BP's business unit for retail operations in the southeastern United States, was looking for ways to improve the performance of her region's BP and Amoco service stations. Through her peer group, she learned of pilot programs at BP stations in the United Kingdom and the Netherlands that were testing some innovative ways to order and deliver convenience store supplies. So last summer, she sought a peer assist from her counterparts in those two countries, as well as from BP retail executives in seven other countries. They met and recommended best practices in such areas as supplier management and store layouts. Copeland then launched three pilot pro-

grams at several stores in the Atlanta area. The results, she says, were dramatic. The pilot stores stocked 26% fewer stock-keeping units (or SKUs) than similar control sites; this inventory reduction led to a 20% decrease in working capital even while sales rose 10%. Copeland is currently rolling out the practices across another 62 sites in Atlanta and Orlando, Florida.

Improving the Quality of Decisions Through Peer Advice. When Anne Drinkwater became head of the business unit responsible for transporting Alaska oil from the North Slope to refineries in the western United States, via pipeline and tankers, she didn't know much about shipping. Her previous job had been in the Gulf of Mexico overseeing deepwater oil wells. But a key task after she arrived in Alaska was to decide the number and sizes of tankers her unit needed to handle oil production output over the next 20 years. In addition to enlisting a few experts from the corporate center in England, her project team identified six people from other business units who could help with the decision. In a number of face-to-face and virtual meetings last summer, the group covered issues ranging from long-term oil production forecasts to financing options for the new ships. The final recommendation: buy three new tankers and take options on another three. "In a very supportive way, they challenged some of our thinking and pointed us in the right direction," says Drinkwater, who recently left Alaska to head a BP unit in Norway.

Growing Revenue Through Shared Expertise. In the late 1990s, Graham Hunt was the leader of a BP petrochemical business unit responsible for the design and construction of a \$200 million acetic acid plant in western China, to be run as a joint venture with Sinopec, the Chinese petrochemical company. The complexity of bringing such a plant online in so remote a location made it a relatively risky undertaking, so Hunt sought BP expertise from a number of operating units around the world. Over a 30-month period, about 75 people flew to the site in China from different parts of BP for visits lasting from a day to several weeks. They gave advice on technical, legal, tax, safety, accounting, and financial issues. Largely because of this peer assistance, Hunt says, the two-year construction project came in on time and under budget. Produc-

tion began in November 1998, and the business broke even after only several months of operation. Says Hunt, now chairman of BP China: “We needed expertise and, given our organization, it was often a phone call away.”

Developing New Business Opportunities Through the Cross-Pollination of Ideas. Vast but often far-flung pools of ideas and expertise are one of the greatest competitive advantages a large company has in today’s knowledge economy. Fruitfully combining this knowledge can produce what might be called “epiphanies of scale”—creative insights that a hot start-up company that has fewer intellectual resources may not be able to achieve. In the spring of 1999, John Melo, then BP’s director of brand development, helped oversee an initiative to develop new e-businesses using existing BP assets. In typical BP fashion, managers from some 15 business units met to brainstorm. The effort produced nearly 600 ideas, out of which 150 are currently being developed. For example, BP is working on Flight-needs.com, which will help operators of small to midsized jets plan their trips and fueling needs, then furnish fuel at the planned stops. Melo says that the managers from different units “could look at our existing business through a variety of lenses and thus identify hidden opportunities.”

Making Bold Strategic Moves Through the Promise of Well-Coordinated Implementation. David Eyton, currently head of a gas business unit in Trinidad, wasn’t alone in wondering how long a massive integration of companies the size of BP and Amoco would take. “It seemed possible that the two companies and cultures could continue to exist indefinitely as parallel universes,” he says. But Eyton’s peer group at the time—comprising 12 business units, roughly half of them legacy Amoco units—immediately embraced the integration process. Working within the well-established peer group norm of a freewheeling and candid exchange of ideas, the group resolved the staffing issues in two months. One month later, other basic elements of the combined business were put in place. BP executives say it was such flexible peer group behavior that permitted a nearly complete integration of the companies within just 90 days. And that experience helped give BP the confidence to launch another major merger, this time with ARCO, only months later.

Designing the Right Organization: Promote and Discipline

Senior executives who are eager to create new value through a T-shaped management environment must, like the T-shaped managers themselves, find ways to manage some inherent tension in the concept. BP has done that through the combination of *promoting* and *disciplining* horizontal management behavior. Top executives can promote this behavior in several ways without creating an ossifying layer of bureaucracy.

Create clear incentives. Business unit managers at BP are judged on their ability to meet specific performance targets for their units. But they also are rewarded and promoted according to how effectively they—and their staffs—share knowledge with others outside their units. Such behavior “is a key test of a manager’s performance and potential,” says Nick Butler, the main policy adviser to CEO Browne. “Lone stars”—those who deliver outstanding business unit performance but engage in little cross-unit collaboration—can survive within BP, but their careers typically plateau.

Knowledge-sharing contributions are by their nature more difficult to measure than success at meeting specific unit performance targets. But executives throughout the company say that bosses are generally well aware of the level of their subordinates’ cross-unit contributions. And the policy of promoting T-shaped behavior is reinforced by BP’s corporate culture. David Nagel recalls his exposure to this shortly after the Amoco merger: “Early on, people on the BP side made it quite clear [to legacy Amoco managers] that you might have spectacular individual business unit performance, but if you weren’t seen to be making contributions beyond your own unit, you wouldn’t be viewed favorably.”

Develop economic transparency. Good T-shaped managers don’t just provide assistance across business unit boundaries; they also seek help themselves. And one way to encourage such requests is through corporatewide internal-benchmarking systems, which spur managers of underperforming units to ask for help.

When in 1999 Jeanne Johns took over as business unit leader for BP’s \$1.5 billion oil refinery in Toledo, Ohio, she checked a company database that lists numerous perfor-

Early on, people on the BP side made it quite clear that you might have spectacular individual business-unit performance, but if you weren’t seen to be making contributions beyond your own unit, you wouldn’t be viewed favorably.

T-shaped managers need to know that it is not only acceptable but also sometimes wise to refuse requests for their time or the time of their staff.

mance and cost metrics for BP's 19 refineries around the world. Some items, such as salaries, clearly were not comparable because of differing business environments. Still, she found that the Toledo facility was lagging far behind its counterparts on a key performance metric—something called “cents per equivalent distillation capacity,” which compares the cost of running refineries of different sizes and complexity. The best-performing facility boasted an index of 9 cents per EDC; the Toledo refinery was at 14 cents.

At Johns's request, a team that included some key people from the top-performing refinery, located in Texas, spent a week in Toledo helping her staff identify possible operating improvements. As a result, within nine months, the Toledo refinery reduced its costs to 11 cents per EDC, saving \$24 million a year.

Formalize cross-unit interactions. Institutionalizing cross-unit behavior can help sustain something that might otherwise remain ad hoc. The difficulty is to avoid creating the very bureaucracy that working across units is meant to cut through. With its peer groups, BP has tried to achieve this balance. One key, managers say, is the prohibition against managers' superiors participating in peer group meetings, which leads to the mixture of robust confrontation and collegial support that characterizes such gatherings.

David Eyton was the business unit leader of the Wytch Farm oil field in southern England at a time, in the late 1990s, when oil production was beginning to decline in this mature field. Eyton presented to his peer group a 1999 operating budget, excluding onetime items, of \$30 million—the same amount as the previous year, even though production was falling. But the 11 other members of the group, in a challenge to the long-standing assumption that unit costs rise as oil production falls in such mature fields, declined to support the proposal. They pushed Eyton to reduce ongoing costs by 20% to keep unit costs flat. “I was shocked,” he says. “I had absolutely no idea how to do what they were asking me to do.”

Over the next several days of meetings, two members of the group met with him privately and offered not only support but also tips on how to pull this off. After the peer group meeting, Eyton passed the challenge on to his own team. They formed a task force, which visited

other business units, including the ones whose leaders had offered the initial challenge. Through such measures as canceling leases on buildings and renegotiating service contracts, Eyton's unit cut its operating costs to \$24 million in 1999. More important, his team devised a long-term plan to ensure that operating costs declined in parallel with production for the remainder of the field's life.

Eyton's peer group experience may serve as a convincing example of the benefits of cross-unit behavior. But BP has learned that encouraging such behavior is only half the equation. Senior executives must also monitor and occasionally rein it in. They can discourage ineffective networking in at least two ways:

Curb cross-unit interactions. T-shaped managers need to know that it is not only acceptable but also sometimes wise to refuse requests from other units for their time or the time of their staff. “I could easily wake up every day and find virtually my entire leadership team off at a meeting somewhere around the globe,” says Deborah Copeland, the retail unit executive. “While each one of those meetings would benefit the company in some way, there would be hardly anybody left in the office to keep my own business running. In addition, you risk burning your people out with all of this collaboration.”

BP executives even talk of occasional outbreaks of “peer assist mania.” This is when managers request too many assists, either because they have become swept up with excitement over the potential benefits or, more cynically, because they think peer assists are a key to earning legitimacy within the company. In either case, the excessive requests waste precious time and effort and can undermine faith in the process. Anne Drinkwater, the former business unit leader in Alaska, recalls receiving an invitation to participate in a peer assist gathering that it was clear she could not contribute much to. In fact, she felt the request amounted to no more than an attempt by the requesting manager to check off a box on his annual list of professional objectives. She declined. “You only have so much time,” she says, “and you have to prioritize around the right things.”

Managers also emphasize that knowledge-sharing activities should focus on business results rather than social events. While social gatherings, like company conferences and off-

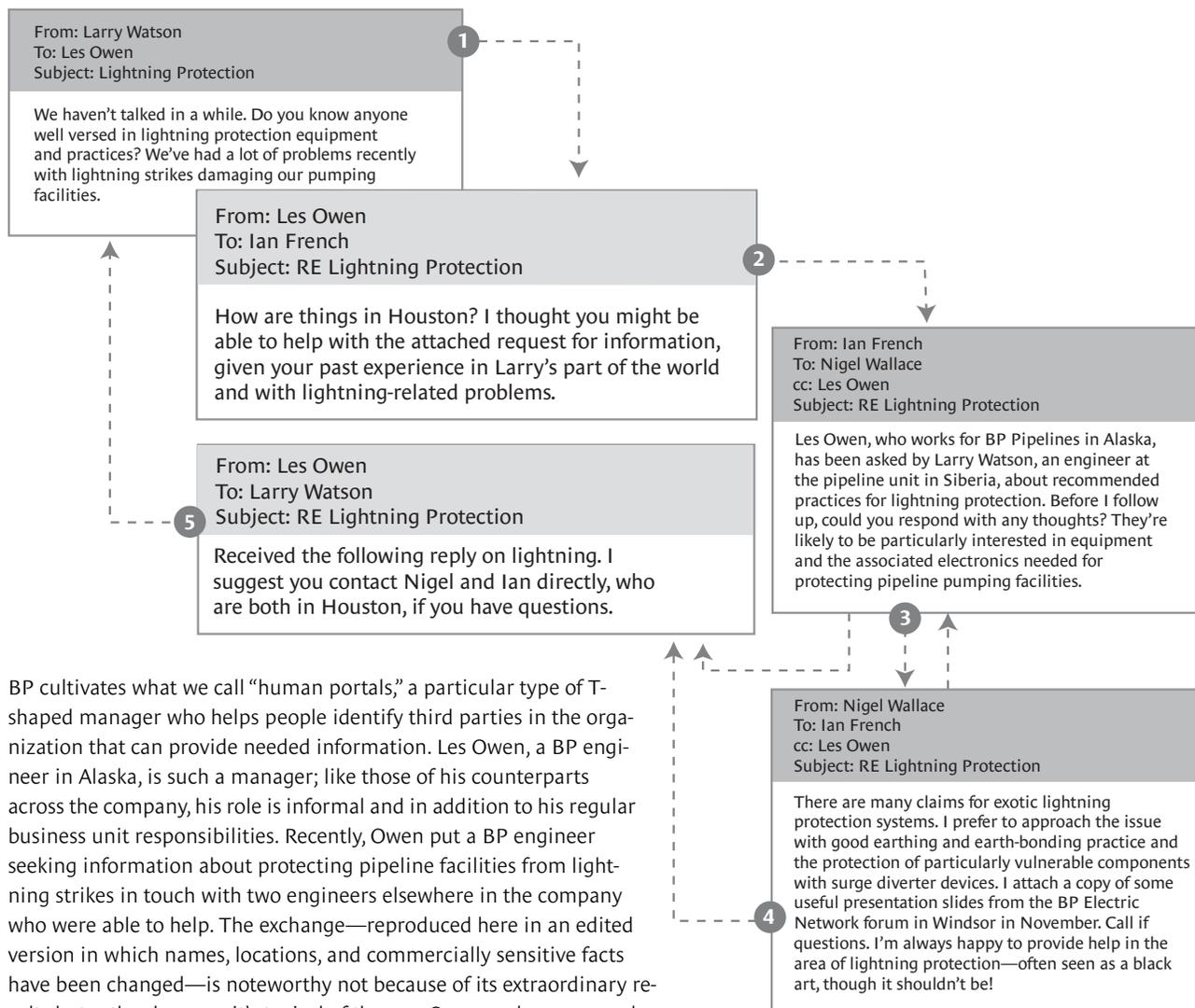
sites, do help create some comfort level, they also leave managers frustrated because the meetings don't really achieve any business goals. Solving problems together through a results-oriented approach to knowledge sharing is a more potent way to create trust among people from different business units because achieving results together creates a track record showing that people are really helping one another. Trust is a byproduct of effective collaboration.

Replace bloated Rolodexes with "human portals." Another potential danger for compa-

nies seeking the benefits of cross-unit collaboration is overnetworking, with every manager flipping through a bulging Rolodex whenever an issue arises. This is a particularly inefficient way to share expertise: if 100 people want to keep in touch with one another directly, they would need to maintain 4,950 direct relationships—a challenge for even the most ambitious group of T-shaped managers.⁴

Senior executives can minimize this problem by identifying and cultivating a particular type of T-shaped manager, one who connects people seeking information with those

Human Portals at Work



BP cultivates what we call "human portals," a particular type of T-shaped manager who helps people identify third parties in the organization that can provide needed information. Les Owen, a BP engineer in Alaska, is such a manager; like those of his counterparts across the company, his role is informal and in addition to his regular business unit responsibilities. Recently, Owen put a BP engineer seeking information about protecting pipeline facilities from lightning strikes in touch with two engineers elsewhere in the company who were able to help. The exchange—reproduced here in an edited version in which names, locations, and commercially sensitive facts have been changed—is noteworthy not because of its extraordinary results but rather because it's typical of the way Owen and many people like him throughout BP regularly serve as information matchmakers.

who can help them—effectively serving as human portals in the companywide knowledge web. Given the implicit nature of the advice that's typically called for, human portals can't simply reroute information like a switchboard. Rather, they must use their extensive knowledge about who knows what and their understanding of what actually is needed to creatively make connections between information seekers and information holders.

Although business unit heads may be outstanding human portals, often these people connectors can be found further down in the organization. Take Les Owen, an engineer responsible for pipeline technical and regulatory matters in the Alaska business unit that was headed by Anne Drinkwater. "Les is better than a Web site," she says. "He's always helping other people connect. He knows everyone and everything that's going on." Like others at BP who serve this function, Owen carries out his human portal responsibilities as a sidelight to his primary job. Drinkwater had informally ensured that he had time for this role. "I was careful when we agreed on work allocation that I didn't fill 100% of his time," she says.

On average, Owen says, he fields maybe ten phone calls and as many e-mails a week from people outside his business unit trying to locate someone who can help with a problem. Owen, who built up his network of contacts over 26 years at BP in a variety of jobs and locations, says his role goes beyond the company's electronic directory of experts. "Using a database is like picking a name out of a phone book—you don't know the person," he says. "To get an answer they'll have confidence in, people would rather go to contacts they know." (See the exhibit "Human Portals at Work.")

A Behavioral Overlay

BP's T-shaped management system isn't the only way a company can share its intellectual resources across business units. One traditional alternative is to centralize knowledge management and decision making, which can be done in a number of ways. The top management team can amass a large number of experts at corporate headquarters. The team can order business unit heads to collaborate. Or it can even combine two or more business units to coordinate their operations and reap the benefits that come from sharing intellectual

resources.

While centralizing creates certain economies of both scale and scope, it has a number of serious drawbacks. Centralized knowledge management often breeds a knowledge bureaucracy that is slow to respond to requests for information from managers in the field. It also may fail to capture the latest expertise and ideas from the operating units, where on-the-job learning is constantly evolving. And centralized decision making about knowledge management undermines the benefits of an otherwise decentralized organization, hindering the innovation that can well up when autonomous business units are free to experiment.

By contrast, what BP's T-shaped management approach does, at its core, is to overlay a flexible "behavioral net" onto a decentralized organization structure. Mechanisms such as peer groups, peer assists, dual promotion criteria, and human portals are designed to change managers' daily activities rather than the organizational structure in which they work. And herein lies the key insight from BP's experience. With its behavioral overlay on a decentralized structure, the company can realize the benefits of cross-unit learning and collaboration without having to institute top-down approaches that could undermine the freedom and accountability needed to produce outstanding individual unit performance.

Of course, BP does centralize many decisions and activities, including the design and oversight of information systems and much of its procurement. It even centralizes some specialized technical expertise that is too narrow to be carried by any single business unit. But cross-unit learning is mainly a decentralized and dispersed activity that is based on managers' willingness to work across organizational boundaries.

BP's approach reflects a subtle but vital shift in the sources of advantage for large global companies. In the past, the key advantage large companies had was their ability to pool volume across business units and countries to lower purchasing, component, and production costs and better leverage their brand. These economies are still important, but the benefits of cross-unit learning and collaboration have become much more important in many increasingly knowledge-intensive industries. And while pooling purchasing volumes to get bet-

ter supplier rates is often best handled by a central purchasing department, the benefits of cross-unit learning tend to be best achieved through decentralized and horizontal networking—that is, directly among employees in operating units who are able to learn, teach, and collaborate. 

1. See “What’s Your Strategy for Managing Knowledge?” by Morten T. Hansen, Nitin Nohria, and Thomas Tierney, *Harvard Business Review* (March–April 1999).
2. See “Unleashing the Power of Learning: An Interview with British Petroleum’s John Browne,” by Steven E. Prokesh, *Harvard Business Review* (September–October 1997).
3. We use the term “T-shaped” to refer to a manager’s be-

havior, in contrast to prior uses of the term, where it has typically referred to a manager’s skill base. See, for example, the discussion of “T-shaped consultants” in “McKinsey & Company: Managing Knowledge and Learning,” by Christopher A. Bartlett, Harvard Business School Case 9-396-357 (1996).

4. The number of connections needed for everybody in an organization to know everybody else is represented by the equation $n(n-1)/2$, where n is the number of people in the organization.

Reprint [R0103G](#)

Harvard Business Review OnPoint [6463](#)

To order, see the next page

or call 800-988-0886 or 617-783-7500

or go to www.hbr.org



Harvard Business Review OnPoint articles enhance the full-text article with a summary of its key points and a selection of its company examples to help you quickly absorb and apply the concepts. *Harvard Business Review* OnPoint collections include three OnPoint articles and an overview comparing the various perspectives on a specific topic.

Further Reading

This article is also available in an enhanced *Harvard Business Review* OnPoint edition, (Product no. [6463](#)), which includes a summary of its key points and company examples to help you put the ideas to work. The OnPoint edition also includes the following suggestions for further reading:

[Balancing Act: How to Capture Knowledge Without Killing It](#)

John Seely Brown and Paul Duguid
Harvard Business Review
May–June 2000
Product no. R00309

[Making Local Knowledge Global](#)

Keith Cerny
Harvard Business Review
May–June 1996
Product no. 4002

[Unleashing the Power of Learning: An Interview with British Petroleum's John Browne](#)

Steven E. Prokesch
Harvard Business Review
September–October 1997
Product no. 4010

Harvard Business Review

To Order

For reprints, *Harvard Business Review* OnPoint orders, and subscriptions to *Harvard Business Review*:
Call 800-988-0886 or 617-783-7500.
Go to www.hbr.org

For customized and quantity orders of reprints and *Harvard Business Review* OnPoint products:
Call Frank Tamoshunas at 617-783-7626,
or e-mail him at ftamoshunas@hbsp.harvard.edu