Communities of Practice:
The Organizational Frontier

by Etienne C. Wenger and William M. Snyder

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Not so long ago, companies were reinvented by teams. Communities of practice may reinvent them yet again – if managers learn to cultivate these fertile organizational forms without destroying them.

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TODAY'S ECONOMY RUNS ON KNOWLEDGE, and most companies work assiduously to capitalize on that fact. They use cross-functional teams, customer- or product-focused business units, and work groups – to name just a few organizational forms – to capture and spread ideas and know-how. In many cases, these ways of organizing are very effective, and no one would argue for their demise. But a new organizational form is emerging that promises to complement existing structures and radically galvanize knowledge sharing, learning, and change. It's called the community of practice.

What are communities of practice? In brief, they're groups of people informally bound together by shared expertise and passion for a joint enterprise – engineers engaged in deep-water drilling, for example, consultants who specialize in strategic marketing, or frontline managers in charge of check processing at a large commercial bank. Some communities of practice meet regularly – for lunch on Thursdays, say. Others are connected primarily by e-mail networks. A community of practice may or may not have an explicit agenda on a given week,

and even if it does, it may not follow the agenda closely. Inevitably, however, people in communities of practice share their experiences and knowledge in free-flowing, creative ways that foster new approaches to problems.

Because its primary "output" – knowledge – is intangible, the community of practice might sound like another "soft" management fad. But that's not the case. During the past five years, we have seen communities of practice improve organizational performance at companies as diverse as an international bank, a major car manufacturer, and a U.S. government agency. Communities of practice can drive strategy, generate new lines of business, solve problems, promote the spread of best practices, develop people's professional skills, and help companies recruit and retain talent. (For examples of how communities of practice have helped companies, see the sidebar "Communities in Action.")

If communities of practice are so effective, why aren't they more prevalent? There are three reasons. The first is that although communities of practice have been around for a long time – for centuries, in fact – the term has just recently entered the business vernacular. The second is that only several dozen forward-thinking companies have taken the leap of "installing" or nurturing them. The third reason is that it's not particularly easy to build and sustain communities of practice or to integrate them with the rest of an organization. The organic, spontaneous, and informal nature of communities of practice makes them resistant to supervision and interference.

But we have observed a number of companies that have overcome the managerial paradox inherent in communities of practice and successfully nurtured them. In general, we have found that managers cannot mandate communities of practice. Instead, successful managers bring the right people together, provide an infrastructure in which communities can thrive, and measure the communities' value in nontraditional ways. These tasks of cultivation aren't easy, but the harvest they yield makes them well worth the effort.

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The Hallmarks of Communities of Practice

Communities of practice were common as far back as ancient times. In classical Greece, for instance, "corporations" of metalworkers, potters, masons, and other craftsmen had both a social purpose (members worshiped the same deities and celebrated holidays together) and a business function (members trained apprentices and spread innovations). In the Middle Ages, guilds played similar roles for artisans throughout Europe. Today's communities of practice are different in one important respect: instead of being composed primarily of people working on their own, they often exist within large organizations.

Communities in Action

Communities of practice add value to organizations in several important ways:

They help drive strategy. Communities of practice are the heart and soul of the World Bank's knowledge management strategy. Some communities of practice have existed for years at the bank, but they were mostly small and fragmented. That has changed now that the bank has made knowledge management the key to its goal of becoming the "knowledge bank" – providing high-quality information and know-how about economic development.

The bank's decision to fund communities of practice, for example, led to a significant increase in the number of organizationwide communities – it's now over 100 – and in the intensity of participation. As the bank supplements its emphasis on lending money with providing development expertise, these communities will increasingly contribute to the bank's strategic direction.

They start new lines of business. Consider how a group of consultants from one firm created a community that eventually generated an entirely new line of business. The group met regularly at O'Hare airport between engagements with clients. Its domain was retail marketing in the banking industry, and the meetings focused on new business opportunities for clients. Over a two-year period, the initial group of five to seven consultants attracted many others within the firm. Four years after the first meeting, the community had created a new line of marketing approaches for financial services companies. And it convened 200 people from the firm in New Orleans for its annual conference. The community acted like a petri dish for entrepreneurial insights that ultimately generated more clients, shaped the firm's strategy, and enhanced its reputation.

Communities of practice are as diverse as the situations that give rise to them. People in companies form them for a variety of reasons. For example, when a company reorganizes into a team-based structure, employees with functional expertise may create communities of practice as a way of maintaining connections with peers. Elsewhere, people may form communities in response to changes originating outside the organization, such as the rise of e-commerce, or inside, such as new company strategies – think of auto manufacturers going into the financing business or computer makers offering consulting services.

A community of practice can exist entirely within a business unit or stretch across divisional boundaries. A community can even thrive with members from different companies; for example, the CEOs who make up the Business Roundtable meet regularly to discuss relationships between business and public policy, among other things. A community can be made up of tens or even hundreds of people, but typically it has a core of participants whose passion for the topic energizes the community and who provide intellectual and social leadership. Large communities are often subdivided by geographic region or by subject matter in order to encourage people to take part actively.

Communities of practice differ from other forms of organization in several ways. (For a summary of the differences, see the exhibit "A Snapshot Comparison.") Consider, briefly, how communities differ from teams. Teams are created by managers to

They solve problems quickly. Members of a community of practice know whom to ask for help with a problem. They also know how to ask questions so that peers can quickly comprehend and focus on the heart of the problem. At Buckman Labs, members of communities of practice from around the world routinely respond to practice-specific queries within 24 hours. In one case, an employee trying to help a pulp mill customer in the Pacific Northwest solve a dye-retention problem received several responses within a day from expert peers in Europe, South Africa, and Canada – and one response provided exactly the solution the customer needed.

They transfer best practices. A community of practice does much more than work on specific problems. It's also an ideal forum for sharing and spreading best practices across a company.

Consider how the former Chrysler made this work, beginning in the early 1990s when the company broke up its functional departments to organize around car platforms such as small cars and minivans. Chrysler's leaders feared they would lose functional expertise and the ability to keep up with leading-edge change. To address those concerns, senior managers and engineers formed communities of practice known as "tech clubs," which were composed of experts from different car platforms. The clubs helped the company successfully make the move to platforms, a change that cut R&D costs and car-development cycle times by more than half.

Today the tech clubs are an important part of the integration of DaimlerChrysler. The clubs meet regularly to discuss questions in 11 areas of product development, including body design, electronics, and vehicle development. They analyze variations in practice and set standards. Engineers who participate in the clubs are responsible for developing and maintaining an Engineering Book of Knowledge, a database that captures information on compliance standards, supplier specifications, and best practices.

They develop professional skills. Studies have shown that apprentices learn as much from journeymen and more advanced apprentices as they do from master craftsmen. It seems clear, then, that effective learning depends on the availability of peers and their willingness to act as mentors and coaches. That applies not only to the education of inexperienced workers but also to that of experts. The best neurosurgeons don't rely simply on their own brilliance; they read peer-reviewed journals, attend conferences in which their colleagues discuss new research, and travel great distances to work alongside surgeons who are developing innovative techniques.

Some companies have found that communities of practice are particularly effective arenas for fostering professional development. At IBM, communities of practice hold their own conferences, both in person and on-line. Presentations, hallway conversations, dinners, and chat rooms are opportunities for members to exchange ideas, build skills, and develop networks.

They help companies recruit and retain talent. American Management Systems has found that communities of practice help the company win the war (or at least some of the battles) for talent. Thus a consultant who was planning to leave the company decided to stay after peers at a community forum found project opportunities for her that were tailor-made to her interests and expertise. Other valuable consultants – at least six, by one manager's count – stayed with the company after being invited to join a prestigious community of practice that would enable them to develop skills and find new clients.

A Snapshot Comparison

Communities of practice, formal work groups, teams, and informal networks are useful in complementary ways. Below is a summary of their characteristics.

	What's the purpose?	Who belongs?	What holds it together?	How long does it last?
Community of practice	To develop members' capabilities; to build and exchange knowledge	Members who select themselves	Passion, commitment, and identification with the group's expertise	As long as there is interest in maintaining the group
Formal work group	To deliver a product or service	Everyone who reports to the group's manager	Job requirements and common goals	Until the next reorganization
Project team	To accomplish a specified task	Employees assigned by senior management	The project's milestones and goals	Until the project has been completed
Informal network	To collect and pass on business information	Friends and business acquaintances	Mutual needs	As long as people have a reason to connect

complete specific projects. Managers select team members on the basis of their ability to contribute to the team's goals, and the group disbands once the project has been finished. Communities of practice, on the other hand, are informal – they organize themselves, meaning they set their own agendas and establish their own leadership. And membership in a community of practice is self-selected. In other words, people in such communities tend to know when and if they should join. They know if they have something to give and whether they are likely to take something away. And members of an existing community, when they invite someone to join, also operate on a gut sense of the prospective member's appropriateness for the group.

To get a better sense of how communities of practice look in action, let's consider two examples.

At the Hill's Pet Nutrition facility in Richmond, Indiana, line technicians meet weekly to talk about recent successes and frustrations as well as challenges looming ahead. They formed the group several years ago after managers and technicians attended a retreat where they were introduced to the concept of communities of practice and learned how such groups could help the company develop and retain technical expertise. The group has a "mayor" who's been chosen by his peers to keep things on track from week to week and see to it that people with relevant expertise are present

when needed. The plant grants people time to participate. Actual attendance fluctuates depending on the agenda.

At a recent gathering we observed, 12 technicians from the first and second shifts met around a large table in the glass-walled conference room overlooking the plant. Although it was midafternoon, they were soon joined by Roger, a technician from the third shift who would have to return seven hours later to begin his "real" work. Roger made a special trip in on this occasion to help John hone his proposal to substitute pneumatic tubes for the balky conveyor belt that carried the pet food kibbles to the packaging bin; Roger's background in plumbing was thus particularly relevant.

Senior managers at the plant had not warmed to the pneumatic tube idea. They believed the conveyor system would work if people just operated it properly. They felt the new approach was unproven and, in any case, would be difficult to incorporate with the plant's current technology. Nevertheless, community members had encouraged John to continue pushing for change, and John had pressed on, buoyed by the knowledge that experts in his community of practice saw merit in his proposal.

Before the group members took up John's proposal, they followed their usual opening routine – going around the table and letting people vent about one thing or another, including the most recent Colts

game. They also followed up on the previous week's discussion about rethinking how new technicians are certified. Then they turned to the proposal.

Vince began by reviewing management's concerns. John then explained that the latest revision of his proposal included evidence from colleagues in other plants that the technology was reliable and would be compatible with existing equipment. Roger was able to confirm the evidence based on his own experience and suggested that he go along the next time John presented his ideas to management.

The community support for John's work ultimately paid off. A year after the meeting, the company installed the new technology. The result? Significant reductions in downtime and wasted pet food related to packaging. In addition to benefiting the company in this way, the community provides important benefits for members: it gives them opportunities to solve nagging problems and hone their ability to run the plant effectively. Improvements in operations can lead to financial rewards in the form of bonuses that are tied to the plant's performance.

Our second example comes from Hewlett-Packard, where a community of practice consisting of product-delivery consultants from around North America holds monthly teleconferences. The community focuses on an HP software product called High Availability, which minimizes computer downtime for customers. The core group of consultants, who had been somewhat isolated, came together a few years ago with the help of facilitators from a knowledge management support team. The members discovered that they had many problems in common and that they could learn a great deal from one another. The community has succeeded in standardizing the software's sales and installation processes and establishing a consistent pricing scheme for HP salespeople.

Participation in the monthly calls is voluntary, but levels of attendance are steady. For one such call, the focus was meant to be on Maureen's experiences with a major customer for which she was installing the product. Before diving in, however, the consultants spent the first ten minutes chatting about the recent reorganization of their division – whether it was a good thing, what it meant for them, and so on.

Maureen hadn't spent a lot of time preparing a formal presentation; she knew that only by talking directly and openly could she spur the give-and-take that would make the call worthwhile for the group. As the call proceeded, community members interrupted her constantly with questions and examples from their own experiences – all of which

helped Maureen understand how to work more effectively with her clients.

The conversation then turned to a persistent bug in the software. Rob, a member of the software division that developed the product, had been invited to take part in these calls to create a stronger connec-

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tion between the product-delivery consultants and software developers. He'd already worked out a way to get rid of the bug, but he learned from the stories he heard in the teleconference how to make the fix even more effective. He told the group that he would follow up during next month's call.

The participants in these communities of practice were learning together by focusing on problems that were directly related to their work. In the short term, this made their work easier or more effective; in the long term, it helped build both their communities and their shared practices – thus developing capabilities critical to the continuing success of the organizations.

The strength of communities of practice is self-perpetuating. As they generate knowledge, they reinforce and renew themselves. That's why communities of practice give you not only the golden eggs but also the goose that lays them. The farmer killed the goose to get all the gold and ended up losing both; the challenge for organizations is to appreciate the goose and to understand how to keep it alive and productive.

A Paradox of Management

Although communities of practice are fundamentally informal and self-organizing, they benefit from cultivation. Like gardens, they respond to attention that respects their nature. You can't tug on a cornstalk to make it grow faster or taller, and you shouldn't yank a marigold out of the ground to see if it has roots. You can, however, till the soil, pull out weeds, add water during dry spells, and ensure that your plants have the proper nutrients. And while you may welcome the wildflowers that bloom without any cultivation, you may get even more satisfaction from those vegetables and flowers you started from seed.

The same is true for companies that grow communities of practice from seed. To get communi-

ties going – and to sustain them over time – managers should:

- identify potential communities of practice that will enhance the company's strategic capabilities;
- provide the infrastructure that will support such communities and enable them to apply their expertise effectively;
- use nontraditional methods to assess the value of the company's communities of practice.

Identifying Potential Communities. Communities of practice should not be created in a vacuum. In most cases, informal networks of people with the ability and the passion to further develop an organization's core competencies already exist. The task is to identify such groups and help them come together as communities of practice. At Shell, for example, a person who wants to develop a new community joins forces with a consultant and interviews prospective members. They look at challenges and problems that people across units and teams have in common and that would serve as bases for a community of practice. The interviews are not only a means of collecting information; they also generate enthusiasm for the embryonic community. After laying the groundwork, the coordinator calls the members of the community of practice together, and the group begins discussing plans for activities that will build individual and group capabilities and advance the company's strategic agenda.

A key task is defining a community's domain. If members don't feel personally connected to the group's area of expertise and interest once it has been defined, they won't fully commit themselves to the work of the community. The U.S. Veterans Administration found this to be true with a community it started in its claims-processing organization. The core group first defined its focus as "technical capability," an umbrella term covering employees' processing skills and the associated procedures and equipment. During the community's first year, the core group's participation was limited and progress was slow. The more active members decided they could move faster if they redefined the community's domain. They created subcommunities of first-line managers, customer service representatives, and training coordinators. As a result, the first-line managers are sharing tips about implementing a new team structure, the customer service reps are helping to set standards to reduce processing time, and the training coordinators are upgrading training modules across the organization.

Executives must invest time and money in helping communities reach their full potential. That means intervening when they run up against obstacles.

Providing the Infrastructure. Communities of practice are vulnerable because they lack the legitimacy – and the budgets – of established departments. To reach their full potential, then, they need to be integrated into the business and supported in specific ways.

Senior executives must be prepared to invest time and money in helping such communities reach their full potential. That means intervening when communities run up against obstacles to their progress, such as IT systems that don't serve them, promotion systems that overlook community contributions, and reward structures that discourage collaboration. It also means linking communities to related initiatives such as a corporate university.

One way to strengthen communities of practice is to provide them with official sponsors and support teams. Such sponsors and teams do not design the communities or prescribe their activities or outcomes. Instead, they work with internal community leaders to provide resources and coordination.

Companies have done this using a range of approaches. Compare the cases of two organizations – American Management Systems (AMS) and the World Bank – each of which has adopted the community of practice as the foundation of its knowledge management strategy. AMS takes an especially formal approach, while the World Bank combines formal and informal methods. A few years ago, AMS was going through an intense period of growth and globalization and, as a result, was losing its distinctive ability to leverage knowledge across the company. Then-chairman Charles Rossotti personally invited "thought leaders," who had been nominated by their business units, to spearhead the development of communities of practice in strategic areas. The company pays for two to three weeks of the leaders' time each year for these activities.

Community membership at AMS is a privilege. To join a community, a potential member must be recognized as an expert by his or her manager. Once on board, a participant has to complete one knowledge-development project per year – for instance, documenting a best practice – in order to remain in the community. Community members' participation is paid for by their business units, which fund their annual projects, cover their attendance at workshops, and send them to an annual conference that brings together all the company's communities of practice.

At the World Bank, president James Wolfensohn established the goal of making his organization the "knowledge bank" – a global source for high-quality information on economic development – so that it could better fulfill its mission of eradicating poverty. Key people throughout the organization then took the initiative to start communities of practice. Membership is open, and members decide on the level of participation that suits their needs. Communities of practice receive funding for specific activities and manage their own budgets.

At both AMS and the World Bank, senior management boards sponsor communities. Support teams help with community development and coordinate annual community conferences, knowledge fairs, library services, and technical support. Both organizations also have started to fund positions for knowledge managers who assist community leaders. These facilitators coordinate the groups, organize events, respond to queries from members, and keep the communities current on information from external sources.

AMS is exploring ways of explicitly rewarding community members. It has a promotion system that formally acknowledges their work, and it grants nonfinancial rewards such as early access to innovative technology and special business cards that attest to the members' expertise. The World Bank also formally recognizes community participation through its personnel evaluation system, but to drive participation it relies primarily on the intrinsic benefits of community membership: the opportunities to solve problems, develop new ideas, and build relationships with peers who share a common passion.

At both AMS and the World Bank, communities of practice have brought together people and ideas, and they have spread knowledge throughout the companies' global operations. They have made demonstrable and significant contributions to the organizations' goals. These two cases show how different styles of formal commitment to communities of practice by senior managers can be very effective when aligned with the organization's culture.

Using Nontraditional Methods to Measure Value. Leaders intuitively recognize the benefit of developing people's capabilities. That said, most have difficulty understanding the value of communities. For one thing, the effects of community activities are often delayed. For another, results generally appear in the work of teams and business units, not in the communities themselves. And it's often hard to determine whether a great idea that surfaced during a community meeting would have bubbled up anyway in a different setting. Such complexity makes it very difficult for managers to assess the value of communities.

The best way for an executive to assess the value of a community of practice is by listening to members' stories, which can clarify the complex relationships among activities, knowledge, and performance. "The idea we pursued at that meeting helped me persuade the customer to continue to buy our service." "Thanks to advice from the community, I got done in two days what normally takes me two weeks." "I took a risk because I was confident I had the backing of my community – and it paid off."

The solution to the conundrum of valuing communities of practice is to gather anecdotal evidence systematically. You can't just collect certain stories, perhaps the most compelling ones, because isolated events can be unrepresentative. A systematic effort captures the diversity and range of activities that communities are involved in.

At Shell, community coordinators often conduct interviews to collect these stories and then publish them in newsletters and reports. AMS organizes a yearly competition to identify the best stories. An analysis of a sample of stories revealed that the communities had saved the company $2 million to $5 million and increased revenue by more than $13 million in one year.

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The New Frontier

Communities of practice are emerging in companies that thrive on knowledge. The first step for managers now is to understand what these communities are and how they work. The second step is to realize that they are the hidden fountainhead of knowledge development and therefore the key to the challenge of the knowledge economy. The third step is to appreciate the paradox that these informal structures require specific managerial efforts to develop them and to integrate them into the organization so that their full power can be leveraged.

Communities of practice are the new frontier. They may seem unfamiliar now, but in five to ten years they may be as common to discussions about organization as business units and teams are today – if managers learn how to make them a central part of their companies' success. ▽