Cultivating Communities of Practice: A Guide to Managing Knowledge - Seven Principles for Cultivating Communities of Practice

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In a new book, *Cultivating Communities of Practice: A Guide to Managing Knowledge*, the authors offer a practical guide to making knowledge work inside an organization. In this excerpt, the authors detail seven design principles for cultivating communities, everything from "design for evolution" to "combine familiarly and excitement."

by Etienne Wenger, Richard McDermott, and William M. Snyder

Seven principles for cultivating communities of practice

In Silicon Valley, a community of circuit designers meets for a lively debate about the merits of two different designs developed by one of the participants. Huddling together over the circuit diagrams, they analyze possible faults, discuss issues of efficiency, propose alternatives, tease out each other's assumptions, and make the case for their view. In Boston, a group of social workers who staff a help line meet to discuss knotty client problems, express sympathy as they discuss difficulties, probe to understand each other's feelings, and gently offer suggestions. Their meetings are often deeply challenging and sometimes highly emotional. The fact-driven, sometimes argumentative, meetings of the Silicon Valley circuit designers are extremely different from the compassionate meetings of the social workers in Boston. But despite their differences, the circuit designers' and social workers' communities are both vibrant and full of life. Their energy is palpable to both the regular participants and visitors.

Because communities of practice are voluntary, what makes them successful over time is their ability to generate enough excitement, relevance, and value to attract and engage members. Although many factors, such as management support or an urgent problem, can inspire a community, nothing can substitute for this sense of *aliveness*.

> The goal of community design is to bring out the community's own internal direction, character, and energy.
>
> *—Cultivating Communities of Practice*
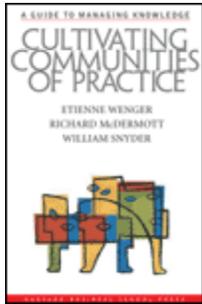
How do you design for aliveness? Certainly you cannot contrive or dictate it. You cannot design it in the traditional sense of specifying a structure or process and then implementing it. Still, aliveness does not always happen automatically. Many natural communities never grow beyond a network of friends because they fail to attract enough participants. Many intentional communities fall apart soon after their initial launch because they don't have enough energy to sustain themselves. Communities, unlike teams and other structures, need to invite the interaction that makes them alive. For example, a park is more appealing to use if its location provides a short cut between destinations. It invites people to sit for lunch or chat if it has benches set slightly off the main path, visible, but just out of earshot, next to something interesting like a flower bed or a patch of sunlight. 1 The structure of organizational relationships and events also invite a kind of interaction. Meetings that contain some open time during a break or lunch, with enough space for people to mingle or confer privately, invite one-on-one discussion and relationship building. Just as a good park has varied spaces for neighborhood baseball games, quiet chats, or solitary contemplation, a well-designed community of practice allows for participating in group discussion, having one-on-one conversations, reading about new ideas, or watching experts duel over cutting-edge issues. Even though communities are voluntary and organic, good community design can invite, even evoke, aliveness.

Designing to evoke aliveness is different from most organizational design, which traditionally focuses on creating structures, systems, and roles that achieve relatively fixed organizational goals and fit well with other structural elements of the organization. Even when organizations are designed to be flexible and responsive to their environment, organic growth and aliveness are typically not primary design goals. 2 For communities of practice, however, they are paramount, even though communities also need to contribute to organizational goals. Designing for aliveness requires a different set of design principles. The goal of community design is to bring out the community's own internal direction, character, and energy. The principles we developed to do this focus on the dilemmas at the heart of designing communities of practice. What is the role of design for a "human institution" that is, by definition, natural, spontaneous, and self-directed? How do you guide such an institution to realize itself, to become "alive?" From our experience we have derived seven principles:

> Good community design requires an insider's perspective to lead the discovery of what the community is about
>
> —*Cultivating Communities of Practice*

1. Design for evolution.
2. Open a dialogue between inside and outside perspectives.
3. Invite different levels of participation.
4. Develop both public and private community spaces.
5. Focus on value.
6. Combine familiarity and excitement.
7. Create a rhythm for the community.

These design principles are not recipes, but rather embody our understanding of how elements of design work together. They reveal the thinking behind a design. Making design principles explicit makes it possible to be more flexible and improvisational.

1. Design for evolution
Because communities of practice are organic, designing them is more a matter of shepherding their evolution than creating them from scratch. Design elements should be catalysts for a community's natural evolution. As they develop, communities usually build on preexisting personal networks. For example, when Schlumberger launched a series of communities of practice in its research division, most people were already part of networks connected through the company's extensive bulletin board system.

The dynamic nature of communities is key to their evolution. As the community grows, new members bring new interests and may pull the focus of the community in different directions. Changes in the organization influence the relative importance of the community and place new demands on it. For example, an IT community that was only marginally important to an organization suddenly became critical as the company discovered the potential of a few e-business pilots. Changes in the core science or technology of a community constantly reshape it, often bringing in professionals from neighboring disciplines or introducing technological advances that change their way of working. Because communities are built on existing networks and evolve beyond any particular design, the purpose of a design is not to impose a structure but to help the community develop.

Community design is much more like life-long learning than traditional organization design. "Alive" communities reflect on and redesign elements of themselves throughout their existence. Community design often involves fewer elements at the beginning than does a traditional organization design. In one case, the coordinator and core members had many ideas of what the community could become. Rather than introduce those ideas to the community as a whole, they started with a very simple structure of regular weekly meetings. They did not capture meeting notes, put up a Web site, or speculate with the group on "where this is going." Their first goal was to draw potential members to the community. Once people were engaged in the topic and had begun to build relationships, the core members began introducing other elements of community structure—such as a Web site, links to other communities, projects to define key practices—one at a time. 5

The key to designing for evolution is to combine design elements in a way that catalyzes community development. Physical structures—such as roads and parks—can precipitate the development of a town. Similarly, social and organizational structures, such as a community coordinator or problem-solving meetings, can precipitate the evolution of a community. Which community design elements are most appropriate depends on the community's stage of development, its environment, member cohesiveness, and the kinds of knowledge it shares. But evolution is common to all communities, and the primary role of design is to catalyze that evolution.

2. Open a dialogue between inside and outside perspectives
Good community design requires an insider's perspective to lead the discovery of what the

community is about. When designing teams, we know a team's output requirements in advance and can design to achieve that output. But effective community design is built on the collective experience of community members. Only an insider can appreciate the issues at the heart of the domain, the knowledge that is important to share, the challenges their field faces, and the latent potential in emerging ideas and techniques. Only an insider can know who the real players are and their relationships. This requires more than community "input." It requires a deep understanding of community issues. [6]

Good community design requires an understanding of the community's potential to develop and steward knowledge, but it often takes an outside perspective to help members see the possibilities. Because intentional communities are new for most organizations, members often have a hard time imagining how a more developed community could improve upon their current personal networks or help them leverage dormant capabilities. Good community design brings information from outside the community into the dialogue about what the community could achieve. Sometimes this involves educating community members about the role of communities in other organizations. It might mean bringing an "outsider" into a dialogue with the community leader and core members as they design the community. As a result of this dialogue, the people who understand the issues inside the community and have legitimacy within it are also able to see new possibilities and can effectively act as agents of change. [7]

The well-connected leader of a new community on emerging technology was concerned about how to develop the community when many of the "prima donnas" of the industry were outside his company. When he saw how a similar community in another organization was structured to involve outside experts in multiple ways, he started rethinking the potential structure of his own community. He realized that the key issues in his community were less about technology and more about the business issues involved in developing the technology. This understanding of the business perspective of the other community gave him a sharper sense of the strategic potential of his own.

3. Invite different levels of participation
Good community architecture invites many different levels of participation. Consider the variety of activities we might find in a city neighborhood on any given day: solitary shoppers, people walking briskly to work, friends out for a casual stroll, couples chatting at an outdoor cafe, a crowd watching a street performer. Others are on the periphery, watching the action from the windows above the street. A community of practice is very similar. People participate in communities for different reasons—some because the community directly provides value, some for the personal connection, and others for the opportunity to improve their skills. We used to think that we should encourage all community members to participate equally. But because people have different levels of interest in the community, this expectation is unrealistic.

Alive communities, whether planned or spontaneous, have a "coordinator" who organizes events and connects community. But others in the community also take on leadership roles. We commonly see three main levels of community participation. The first is a small core group of people who actively participate in discussions, even debates, in the public community forum. They often take on community projects, identify topics for the community to address, and move the community along its learning agenda. This group is the heart of the community. As the

community matures, this core group takes on much of the community's leadership, its members becoming auxiliaries to the community coordinator. But this group is usually rather small, only 10 to 15 percent of the whole community. At the next level outside this core is the active group. These members attend meetings regularly and participate occasionally in the community forums, but without the regularity or intensity of the core group. The active group is also quite small, another 15 to 20 percent of the community.

A large portion of community members are peripheral and rarely participate. Instead, they keep to the sidelines, watching the interaction of the core and active members. Some remain peripheral because they feel that their observations are not appropriate for the whole or carry no authority. Others do not have the time to contribute more actively. In a traditional meeting or team we would discourage such half-hearted involvement, but these peripheral activities are an essential dimension of communities of practice. Indeed, the people on the sidelines often are not as passive as they seem. Like people sitting at a cafe watching the activity on the street, they gain their own insights from the discussions and put them to good use. They may have private conversations about the issues being discussed in the public forum. In their own way, they are learning a lot. In one community, a peripheral member attended nearly all meetings for two years, but almost never contributed. Then he was transferred to another division and, to everyone's surprise, started a similar community there.

Finally, outside these three main levels are people surrounding the community who are not members but who have an interest in the community, including customers, suppliers, and "intellectual neighbors." Community members move through these levels. [8] Core members often join the sideline as the topic of the community shifts. Active members may be deeply engaged for a month or two, then disengage. Peripheral members drift into the center as their interests are stirred. Because the boundaries of a community are fluid, even those outside the community can become quite involved for a time, as the focus of the community shifts to their areas of interest and expertise. The key to good community participation and a healthy degree of movement between levels is to design community activities that allow participants at all levels to feel like full members. Rather than force participation, successful communities "build benches" for those on the sidelines. They make opportunities for semiprivate interaction, whether through private discussion rooms on the community's Web site, at a community event, or in a one-on-one conversation. This keeps the peripheral members connected. At the same time, communities create opportunities for active members to take limited leadership roles, such as leading a development project that requires a minimal time commitment. To draw members into more active participation, successful communities build a fire in the center of the community that will draw people to its heat.

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—*Cultivating Communities of Practice*

4. Develop both public and private community spaces
Like a local neighborhood, dynamic communities are rich with connections that happen both in the public places of the community—meetings, Web site—and the private space—the one-on-one networking of community members. Most communities have public events where community members gather—either face-to-face or electronically—to exchange tips, solve

problems, or explore new ideas, tools, and techniques. These events are public in that they are open to all community members, though they are often closed to people outside the community. Sometimes they include formal presentations, but most often they are informal discussions of current problems and issues. Public community events serve a ritualistic as well as a substantive purpose. Through such events, people can tangibly experience being part of the community and see who else participates. They can appreciate the level of sophistication the community brings to a technical discussion, how it rallies around key principles, and the influence it has in the organization.

As we've emphasized before, communities are much more than their calendar of events. The heart of a community is the web of relationships among community members, and much of the day-to-day occurs in one-on-one exchanges. Thus, a common mistake in community design is to focus too much on public events. A community coordinator needs to "work" the private space between meetings, dropping in on community members to discuss their current technical problems and linking them with helpful resources, inside or outside the community. These informal, "back channel" discussions actually help orchestrate the public space and are key to successful meetings. They ensure that the spontaneous topics raised at the meetings are valuable to the whole and that the people attending will have something useful to add. The one-on-one networking creates a conduit for sharing information with a more limited number of people, using the coordinator's discretion as a gate. Every phone call, e-mail exchange, or problem-solving conversation strengthens the relationships within the community. 9

The public and private dimensions of a community are interrelated. When the individual relationships among community members are strong, the events are much richer. Because participants know each other well, they often come to community events with multiple agendas: completing a small group task, thanking someone for an idea, finding someone to help with a problem. In fact, good community events usually allow time for people to network informally. Well-orchestrated, lively public events foster one-on-one connections. As one coordinator said, "I like to see who walks out of the room together, who hangs around and talks. The more new connections I see, the better the meeting was." The key to designing community spaces is to orchestrate activities in both public and private spaces that use the strength of individual relationships to enrich events and use events to strengthen individual relationships. 10

5. Focus on value
Communities thrive because they deliver value to the organization, to the teams on which community members serve, and to the community members themselves. Value is key to community life, because participation in most communities is voluntary. But the full value of a community is often not apparent when it is first formed. Moreover, the source of value often changes over the life of the community. Frequently, early value mostly comes from focusing on the current problems and needs of community members. As the community grows, developing a systematic body of knowledge that can be easily accessed becomes more important.

Rather than attempting to determine their expected value in advance, communities need to create events, activities, and relationships that help their potential value emerge and enable them to discover new ways to harvest it. A group of systems engineers thought that sharing project proposals would be useful. Once they began, however, they discovered that the proposals

themselves were not that helpful. What they needed was the engineers' logic for matching that software with that hardware and that service plan. This logic, of course, was not explicit in the proposal. These engineers needed to meet, discuss their proposals, and unveil the logic that held their systems together.

Many of the most valuable community activities are the small, everyday interactions—informal discussions to solve a problem, or one-on-one exchanges of information about a tool, supplier, approach, or database. The real value of these exchanges may not be evident immediately. When someone shares an insight, they often don't know how useful it was until the recipient reports how the idea was applied. The impact of applying an idea can take months to be realized. Thus, tracing the impact of a shared idea takes time and attention.

In fact, a key element of designing for value is to encourage community members to be explicit about the value of the community throughout its lifetime. Initially, the purpose of such discussion is more to raise awareness than collect data, since the impact of the community typically takes some time to be felt. Later, assessments of value can become more rigorous.

Several months after it started one community made discussing value part of its monthly teleconferences. Most community members were not able to identify any particular value when these discussions began, even though they all felt participation was useful. Soon, however, one community member was able to quantify the value his team gained by applying a new technique he learned from another member. Another said the real value of the community was more personal and less quantifiable; he knew who to contact when he had a problem. Once these examples surfaced, other community members were better able to identify the specific value they derived from participation. Although people often complain about the difficulty of assessing community value, such early discussions greatly help community members as well as potential members and other stakeholders understand the real impact of the community.

6. Combine familiarity and excitement
Successful communities offer the familiar comforts of a hometown, but they also have enough interesting and varied events to keep new ideas and new people cycling into the community. As communities mature, they often settle into a pattern of regular meetings, teleconferences, projects, Web site use, and other ongoing activities. The familiarity of these events creates a comfort level that invites candid discussions. Like a neighborhood bar or café, a community becomes a "place" where people have the freedom to ask for candid advice, share their opinions, and try their half-baked ideas without repercussion. They are places people can drop by to hear about the latest tool, exchange technical gossip, or just chat about technical issues without fear of committing to action plans.

Communities of practice are what Ray Oldenberg calls "neutral places," separate from the everyday work pressures of people's jobs. [11] Unlike team members, community members can offer advice on a project with no risk of getting entangled in it; they can listen to advice with no obligation to take it. These are reasons why a group of scientists in a pharmaceutical company, driven by urgency to develop new products, see their community as a place to think, reflect, and consider ideas too "soft" for the development teams.

Like a well-planned, challenging conference, vibrant communities also supply divergent thinking and activity. For example, a community of immunologists invites a controversial speaker to their annual conference, a Nobel Prize winner whose ideas are respected by the community but controversial enough to challenge their normal way of thinking. P&G invites its communities to its science fair, where the latest ideas and inventions are displayed and discussed. Conferences, fairs, and workshops such as these bring the community together in a special way and thus facilitate a different kind of spontaneous contact between people. They can provide novelty and excitement that complements the familiarity of everyday activities.

Lively communities combine both familiar and exciting events so community members can develop the relationships they need to be well connected as well as generate the excitement they need to be fully engaged. Routine activities provide the stability for relationship-building connections; exciting events provide a sense of common adventure.

7. Create a rhythm for the community

Our everyday lives have a rhythm: waking up and preparing for work, commuting, checking e-mail, attending meetings, commuting home, engaging with kids' activities, enjoying quiet time. Although there are different rhythms for different people, most of our lives do have a rhythm, which contributes to its sense of familiarity. Towns also have a rhythm. Take the college town of Boulder, Colorado. Throughout the year it has a series of monthly festivals: a river festival, a road race, an arts festival, a Fourth of July celebration, a World Affairs Conference, and a few festivals whose occasion hardly anyone remembers. Like most towns, it also sponsors numerous projects—an arts fund drive, clothing for the homeless. These events and community projects give residents an opportunity to assemble, converse, share opinions, spout off (Boulder's fairs even have an official soapbox), and have fun together in a way that punctuates the life of the town. They give the town a beat.

Vibrant communities of practice also have a rhythm. At the heart of a community is a web of enduring relationships among members, but the tempo of their interactions is greatly influenced by the rhythm of community events. Regular meetings, teleconferences, Web site activity, and informal lunches ebb and flow along with the heartbeat of the community. When that beat is strong and rhythmic, the community has a sense of movement and liveliness. If the beat is too fast, the community feels breathless; people stop participating because they are overwhelmed. When the beat is too slow, the community feels sluggish. A community of library scientists had an annual meeting and a Web site with a threaded discussion. Not surprisingly, six months after the conference there was very little activity on the Web. An engineering community, on the other hand, held a biweekly teleconference as well as several focused, face-to-face meetings during the year. In this community there is typically a flurry of activity on the Web site just before and after the teleconferences and meetings. The events give the community a beat around which other activities find their rhythm. [12] Sometimes key projects and special events create milestones for the community, breaking up the regular rhythm. Members of a community on team development at the Veterans Benefits Administration traveled to regional offices around the country. They gave workshops and coached local team members and managers. These office visits made the community's contribution to the organization visible and marked a major step in the community's development.

The rhythm of the community is the strongest indicator of its aliveness. There are many rhythms in a community—the syncopation of familiar and exciting events, the frequency of private interactions, the ebb and flow of people from the sidelines into active participation, and the pace of the community's overall evolution. A combination of whole-community and small-group gatherings creates a balance between the thrill of exposure to many different ideas and the comfort of more intimate relationships. A mix of idea-sharing forums and tool-building projects fosters both casual connections and directed community action. There is no right beat for all communities, and the beat is likely to change as the community evolves. But finding the right rhythm at each stage is key to a community's development.

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Footnotes:

1. C. Alexander, S. Ishikawa and M. Silverstein, *A Pattern Language: Towns, Buildings, Construction* (New York: Oxford University Press, 1977), and J. Jacobs, *The Death and Life of Great American Cities* (New York: Vintage, 1993)

2. Traditional approaches to organization design have generally focused on the design of formal systems and structures to address environmental demands, task uncertainty, and individual needs (J. R. Galbraith, *Organization Design* [Reading, MA: Addison-Wesley, 1977]), or to leverage the power of information technology (M. Hammer and J. Champy, *Reengineering the Corporation: A Manifesto for Business Revolution* [New York: HarperBusiness, 1993]). While these design objectives are reasonable and effectively address important problems, Cal Pava noted that they do not address the dynamic, nonlinear, boundary-spanning nature of knowledge work conducted by members of "discretionary coalitions." "Redesigning Sociotechnical Systems Design: Concepts and Methods for the 1990s," *The Journal of Applied Behavioral Science* 22, no. 3 (1986): 207. Historically, a number of scholars have argued for organic metaphors to describe organizations, including T. Burns and G. M. Stalker, who referred to innovative organizations as "organic" versus more efficiency-oriented, "mechanistic" organizations (*The Management of Innovation* [London: Tavistock, 1961]). Since then many scholars have described organizations using metaphors or frameworks that describe the "aliveness" of organizations from a variety of perspectives. F. Capra (*The Web of Life: A New Understanding of Living Systems* [New York: Doubleday, 1997]) describes organizations as biological systems; M. J. Wheatley (*Leadership and the New Science: Discovering Order in a Chaotic World* [San Francisco: Berrett-Koehler, 1994]) describes them as systems that are governed by self-organizing principles associated with complexity and chaos theory; A. P. de Geus (*The Living Company* [Boston, MA: Harvard Business School Press, 1997]) argues that learning is the key to sustaining the living organization; J. C. Collins and J. I. Porras (*Built to Last* [New York: HarperCollins, 1994]) emphasize the importance of shared values; G. M. Bellman (*The Beauty of the Beast* [San

Francisco: Berrett-Koehler, 2000], 53) challenges members to develop organizations that aspire to life and "regenerate themselves" over many generations. Finally, Dexter Dunphy and Andrew Griffiths argue that corporations must, in turn, foster both a healthy environment and a vibrant "human ecosystem" to remain sustainable for the long term. Notably, they state that achieving such ends depends on a global community of practice to steward the "organizational renewal movement." *The Sustainable Corporation: Organisational* [sic] *Renewal in Australia* (St. Leonards, Australia: Allen & Unwin, 1998), 202, 204.

3. Christopher Alexander's approach to designing buildings and towns in a way that invites aliveness and vitality informs much of this approach to community design. Alexander, Ishikawa, and Silverstein, *A Pattern Language,* and Alexander*, The Timeless Way of Building*.

4. C. Alexander, *The Timeless Way of Building* (New York: Oxford University Press, 1979).

5. K. Kelley compares the design of complex machines and social systems to the process of intentionally creating a prairie. It is not a process where the design can be defined up front and executed programmatically. Rather, it begins by establishing a living "chunk" or "whole organelle," which grows organically. *Out of Control: The New Biology of Machines*, *Social Systems, and the Economic World* (Reading, MA: Addison-Wesley, 1994), 45, 57-68.

6. This principle is consistent with the direction of organization theory and practice since the seminal work of McGregor, *The Human Side of Enterprise* (New York: McGraw-Hill, 1960), and Argyris, *Integrating the Individual and the Organization* (New York: Wiley, 1964). Warren Bennis and Philip Slater, among others, have emphasized design approaches that call for increased participation of members at all levels in decisions about the design and management of their work. Bennis and Slater, *The Temporary Society* (New York: Harper & Row, 1968). In later decades, Argyris and Schon have described in detail the conditions for dialogue, or "organizational learning," to address both routine issues and those that challenge basic values and beliefs. *Organizational Learning: A Theory of Action Perspective* (Reading, MA: Addison-Wesley, 1978). McLagan and Nel outline various levels of participation and how to change roles and systems to support participative management approaches. *The Age of Participation* (San Francisco: Berrett-Koehler, 1995)

7. The perspective of insiders is most powerful when it includes an understanding of outsiders. Social change, whether in an organization or society at large, is often driven by an insider who has acquired perspective on the world outside. See, for instance, R. A. Nisbet, *Social Change and History: Aspects of the Western Theory of Development* (London: Oxford University Press, 1975), and J. Campbell, *The Hero with a Thousand Faces* (Princeton, NJ: Princeton University Press, 1949).

8. J. Lave and E. Wenger found that apprentices learned a great deal through "legitimate peripheral participation"; that is, by participating peripherally in a practice where there were opportunities to learn from masters and more experienced journey men. *Situated Learning: Legitimate Peripheral Participation* (New York: Cambridge University Press, 1991). For example, apprentice tailors in Africa gained entry to the practice at first by running errands and

performing simple finishing tasks, such as sewing buttons, which involved little risk but gave them a good sense of the final product.

9. R. McDermott, "Why Information Technology Inspired, but Cannot Deliver Knowledge Management," *California Management Review* 41, no. 3 (1999) 103-117.

10. R. Oldenburg explains that informal public places such as piazzas, cafes, and hair salons provide an essential context for fostering the various interpersonal connections that weave a community together over time. *Celebrating the Third Place: Inspiring Stories about the Great Good Places at the Heart of Our Communities* (New York: Marlowe & Company, 1989). P. Katz and V. Scully describe the "new urbanism" school of city planning, which emphasizes design elements such as front porches on residential streets, to encourage spontaneous conversations between neighbors. *The New Urbanism: Toward an Architecture of Community* (New York: McGraw-Hill, 1993).

11. Oldenberg, *Celebrating the Third Place*.

12. C. J. G. Gersick found that project teams exhibited a consistent time-based pattern of behavior in which team members would predictably shift gears at the halfway point and become more self-conscious about how to use the remaining time to meet their objective. "Time and Transition Work Teams: Toward a New Model of Group Development," *Academy of Management Journal* 31, no. 1 (1988): 9-41.