



Innovation and Communities of Practice

The “Great Symphony” Paradox

The innovation potential of bridging structural holes

"Here is the paradox: You need a great team of people with diverse skills to perform a symphony well, but no team has ever written a great symphony!



While cross-functional teams are key players in defining and implementing incremental innovation projects, cross-functional disruptive individuals tend to be key players in defining radical innovation projects.”¹

Who are those “cross-functional disruptive individuals,” where are they coming from, where to find and how to attract and retain them? Given the roles those individuals may

play in innovation, knowledge executives and innovation managers who don’t ask these questions, do a disservice to their company.

Disruptive innovators - or as strategy guru Gary Hamel calls them, the “revolutionaries” - are people who developed talents in multiple disciplines and use them for disrupting wasteful practices in business and society. They prefer working with organizations that learned how to keep them interested and engaged. They are better poised to see and connect the dots of breakthrough possibilities, than those with a narrower professional horizon who see fewer dots.

To up its capability for radical and disruptive innovation, the organization needs to have more people with cross-functional talents and aspirations. Hence, the importance of the question, where to find them.

A recent study of people managing the supply chain in a large American electronics company has shown “how compensation, positive performance evaluations, promotions, and good ideas were disproportionately in the hands of managers rich in the social capital of bridging structural holes... Ways of thinking and behaving are more homogeneous within than between groups, so people connected to otherwise segregated groups are more likely to be familiar with alternative ways of thinking and behaving, which gives them the option of selecting and synthesizing alternatives.”²

The concepts of “social capital” and “structural holes” are essential to appreciating some pivotal conditions for creating radical and disruptive innovation. As you read their description below, think of how the organization’s innovation performance may be affected by the social capital of its members.

¹ Radical Innovation: How Mature Companies Can Outsmart Upstarts, by Richard Leifer, Gina Colarelli O'Connor, Mark Rice, Christopher M. McDermott, Lois S. Peters, Robert W. Veryzer, Harvard Business School Press (2000)

² Source : The Social Origins of Good Ideas, by Ronald Burt; <http://gsbwww.uchicago.edu/fac/ronald.burt/research/SOGL.pdf>



“The structural hole argument explains social capital in terms of the information and control advantages of being the intermediary in relations between people who are otherwise disconnected in a social network. These disconnected people or groups of dense relationships are situated on opposite sides of a hole in the social structure. The value of an individual’s social capital is measured in terms of the number of structural holes the person bridges. In other words, the more diverse and non-redundant one’s relationships are, the more value they provide.”³

Equipped with that understanding, we may find the study’s finding not too surprising: “Managers whose discussion networks more often spanned structural holes were more likely to express their ideas, less likely to have their ideas dismissed by senior management, and more likely to have their ideas evaluated as valuable.”⁴

If social capital would mean simply knowing more people in more groups, than managers would more likely to discover more radical innovation opportunities, and champion more innovations, than the rank and file. Yet, in practice, it is frequently not so. To be motivated to carry radical or disruptive innovation ideas into their manifestation, one has to expect more gain from the change than from maintaining the status quo. That’s not always the case of middle managers who feel already vulnerable about losing their gatekeeping function to the reduced cost of coordination by interactive collaboration tools. In addition, we need another meaning of social capital, in which what counts is not only whom we know, but what we’re ready to do for one another, which is a question of trust. Across hierarchical boundaries trust doesn’t flow as well as among peers.

Where do disruptive innovators come from?

The star of a new hero, the multidisciplinary performer, started rising when corporations realized, they have more talented and ambitious people than opportunities to promote them. Horizontal promotion was invented to move them around and let them occupy more different jobs during their carrier than the precedent generations. Intel and Hewlett-Packard are known to let their employees spawn powerful albeit informal personal networks of all with whom they’ve been working. Horizontal mobility is, no doubt, one of the ways to cultivate multidisciplinary performers, among which there’s a higher concentration of disruptive innovators than among people with only one professional identity.

Closely related to that is the other factor, membership in multiple communities of practice, which became a fact of life for more and more people. It’s one of the trends of in organizations equally advantageous to them and their members.

People with multiple professional identities are not permanently tied to one community. “They see themselves as multidimensional: as opposed to saying ‘I’m a doctor, don’t expect me to teach you anything’ or ‘I’m just a programmer, don’t bug me with politics’, they’ll say ‘Well, right now I’m into this and that and that, and if you have something new to show me I just might take a plunge!’”⁵

Multi-community membership supports, at the individual level, the development of human faculties through peer-to-peer learning, in as many domains of practice as a person choose to belong to. Of course the number of domains on which a person can become a good practitioner is limited by time and the complexity of managing multi-community relationships. Social networking and person-centric

³ Social Capital, by Marja Kemppainen et al, http://www.tuta.hut.fi/studies/Courses_and_schedules/Tps/TU-53.307/assignment/socialcapital.pdf

⁴ The Social Origins of Good Ideas, by Ronald Burt <http://gsbwww.uchicago.edu/fac/ronald.burt/research/SOGL.pdf>

⁵ Online Communities and the Future of Culture, by Sébastien Paquet



collaboration tools can attenuate that complexity, thus they promote multi-memberships. The fastest way to get smarter in any domain is to join its community of practice, and this is a trend likely to expand its reach to all industries.

The implication of multi-community membership at the organizational level is increased social coherence, more options for the configuration and re-configuration of capabilities for value-creation under fast-changing conditions. The shift toward multi-community membership is also the most potent booster of the innovation potential of the enterprise. A key factor in fully realizing that potential is liberating the innovation value of the company's communities of practice.

What Kind of Communities of Practice?

The future belongs to organizations that learned to truly unleash the creative powers of self-organizing project communities, knowledge networks, open source teams, and other new ways of work and learning, based on free associations of people who are passionate about what they do together. Communities of practice are in the center of this widening innovation movement. The challenging task of leadership is to encourage a fundamental re-organization of work so that it can be truly inspiring to people to invest their attention in it.

The “community” perspective of Communities of Practice

“Communities of practice are groups of people who share a passion for something that they know how to do and to interact regularly to learn how to do it better.” (Etienne Wenger)

The “business” perspective of Communities of Practice

“A group of self-governing people whose practice is aligned with strategic imperatives and are challenged to create shareholder value by generating knowledge and increasing capabilities.” (Hubert Saint-Onge)

Those distinctions are two sides of the same coin called “Näringsliv.” It's the Swedish word for “business”, which means “nourishment for life.”

We nourish life with our generative relationships, as well as with value creation and exchange. Communities of practice are the “sweet spot” of those two dimensions.

The natural partners to meet that task are the project communities and other forms of communities of practice. Future-responsive leaders do their best to strengthen them in their organization and help them becoming a valuable and valued partner in such strategic areas as innovation and people development. “Communities of practice are included in the budgeting and planning process, are a legitimate way to spend time, are held accountable for producing and stewarding knowledge, and are gradually assuming a formal voice in organizations.”⁶

Communities come in different shades and play different roles in value creation. Using the Wenger-McDermott-Snyder classification, communities can be characterized by more than one functions outlined below, but they tend to gravitate around one of the following areas of activity:

- Peer-to-peer help in problem solving
- Developing and verifying best practices

⁶ Building and Sustaining Communities of Practice, a study by APQC



CommunityIntelligence

- Upgrading and distributing knowledge in daily use
- Fostering unexpected ideas and innovation

Communities centered on any of those activities can contribute to innovation; the fourth one just does it more directly.

There are other classifications too (to be found in the Knowledgeboard SIG on communities of practice) to discover how to leverage the value of all communities, as one of the first steps, we need to develop taxonomy of community types in business. However, what is even more important is the appreciation of their diversity as a sign of the self-organizing community ecosystem's vitality.

Besides the innovation communities mentioned, there are two other types which - under the right conditions - may become powerful catalysts and direct contributors to radical and disruptive innovation. They are the "strategic communities of practice" and "project communities".

Strategic communities of practice (SCoP) are initiated by the organization's leadership team, to power up selected strategic initiatives, which can include, e.g.:

- Accelerating the rate of introducing successful disruptive innovation
- Facilitating culture change
- Entering a new market

A SCoP is led, typically, by an internal "guru" of its domain of practice, who serves also as magnet to attract members. They can be mandated to develop specific a contribution, if management provides appropriate resources to accomplish it. For example, at AT&T, strategic communities of practice were asked to develop technology strategy recommendations in their area of expertise.

"Project communities" are yet another variety of growing importance. They can be as small as our collaborative writing group or the 3 to 7-member creative groups at Google; they can be as large as open source communities of several hundred or thousand people. Let's look at them in the next section.

Project Communities

"Project communities" are groups of people who share a passion for a project they decided to collaborate on, and hone their talents and collective competence in delivering it.

Their reward is three-fold. It is their:

- Satisfaction in, and compensation for, successful collaborative action and its results
- Enhanced capability to initiate, collaborate on, and complete such actions
- Increased ease, effectiveness, efficiency and enjoyment of engaging in similar action, next time

Participation is voluntary and time-bound, although successful project communities have multiple incentives to engage again in a similar or different project together. Their leadership is distributed and situational; people with most relevant experience lead parts of the action. The convener of such communities is frequently a catalyst for transformation, motivated by developing new, creative and collective capabilities.



The table below⁷ compares “project or operational teams,” “communities of practice,” and “project communities,” along the lines of some shared parameters.

	Project or Operational Teams	Communities of Practice	Project Communities
Deliver	Task	Domain	Self-governing, collaborative action
Objective	Deliver on time, on budget	Improve the practice	Deliver project whilst improving the practice
Participation	Assigned	Voluntary	Voluntary
Time frame	Continuous or beginning and end	Continuous	Ad hoc, beginning and end
Commitment	To goal	To domain	To project
Investment	More organizational	More personal	More personal
Connected	Subtasks	Interdependent knowledge	Shared passion, dovetailing knowledge
Lead	Managed	Non-traditional, distributed leadership	Distributed, situational leadership
Teaming	Focus team	Bring people together	Grow collective capabilities
Coordinate	Objectives and overall goal	Allow to find own direction	Shared purpose
Reward	Financial	Enhanced capability	Enhanced capability, and possibly, financial
Type of work	Dissimilar or similar	Similar	Dissimilar or similar

Table 1: Properties of different communities

Project communities share features with, and differ from the previous two types. Just as teams, they deliver a project and guided by shared intent to do it on time and on budget if they have a budget, which is not always the case. Just as communities of practice, and unlike typical teams, their membership is voluntary, not assigned, and their leadership is distributed and situational.

The factors that play in the success of project communities start with a project that energizes a core group, and an infrastructure to support collaboration and coordination. They also include factors considered as critical to the success of communities of practice, such as⁸:

- Skillful and reputable coordinator
- Involvement of experts
- Address details of practice
- Right rhythm and mix of activities

Project communities are excellent vehicle for innovation because they can combine and bring to its service the accomplishment-orientation of teams with the learning focus and self-organizing energy in communities of practice. Next, we will take a closer look of how communities of practice support innovation.

⁷ The source of the first two columns is “Cultivating Communities of Practice” – Wenger, McDermott, Snyder

⁸ Source: Quick Guide to CoP Start-up, by Etienne Wenger



Communities in the Innovation Ecology

The vitality of knowledge ecology--the rainforest of ideas, insights and inspirations - and innovation ecology depends on the same as the vitality of natural ecosystems: their diversity. The diversity of any ecosystem is continually enhanced by the interactions with the surrounding ecosystems. The organization's innovation ecosystem doesn't stop at its gates.

“Why is the environment, the ecology of innovation, becoming increasingly important? Part of the explanation has to do with the fact that the process of innovation in the new knowledge-driven economy is increasingly becoming a function of open-source networks of cooperation. In other words, innovation is not something that is happening ‘inside’ firms but rather at the interfaces of firms with markets, structures of competition, and the regulatory and institutional environments within which firms operate. Open-source networks of cooperation are composed of teams of company employees and entrepreneurs outside the official structures of companies as well as within such structures.”⁹

Those open-source networks of cooperation include organizations, individuals and business communities. In this chapter we focus on project communities and communities of practice, that foster innovation in countless ways, both in the sense of “numerous” and “uncounted”.

A systematic inventory of the communities' innovation value could open the possibility to:

1. Create better alignment between the innovation capacity of the communities and the strategic intent of the organizations hosting them.
2. Recognize communities of practice, other open source networks, and their constellations, as the most generative source of value creation. “Generative” refers to the properties of self-sustaining, self-improving, self-evolving, and self-propagating. You will find an introduction to the “generative” distinction in the next section.

The common first step to realizing both possibilities is talking with the innovation leaders, and gathering stories, observations, news, and quotes relevant to how open source communities within and without formal organization foster innovation. We started doing that, and here are the first results. Far from being considered complete, the list below is only a starting point and a heartfelt invitation to a learning journey into further discovery.

Direct contributions of communities to innovation, by innovation stage

Communities of practice and open source networks bring value to all phases of innovation from idea generation and evaluation to implementation and commercialization.

1. Idea stage: knowledge confluence, trust flows, and taxonomies

In the idea stage of innovation, we collect, evaluate, connect, and re-contextualize ideas. In that stage, knowledge and expertise flow from various sources and converge into patterns of new potential. The robustness of those patterns holds the key to the vitality of the innovation that they engender. Robust patterns of innovation are capable to adapt to, and perform well under, changing circumstances.

⁹ From Knowledge to Innovation Ecology, by Takis Damaskopoulos (INSEAD)

http://www.knowledgeboard.com/library/damaskopoulos_whitepaper_innovation_ecology.pdf



The transparency of peer-to-peer culture prevalent in open source networks and communities of practice is more conducive to trust building than accomplishing the same in hierarchical contexts. Trust is pivotal to create a safe environment for community members where they are free to take risks and experiment with ideas. One of the sources of the communities' innovation value is in their role in accelerating trust flows.

All communities of practice can foster innovation but there are some whose very existence is centered on that. They can be either grassroots-originated or called into being by the management, as the case of Strategic Communities of Practice. In both forms, they are facilitated for generating breakthrough insights and innovative ideas that can be implemented. Innovation CoPs have the potential to develop and model the roles and practices that some of the other CoPs too can include in their capability repertory. For example, the tradition of "Tech Clubs" formed by various engineering disciplines at Chrysler, in the early 90's, includes the shared appraisal of emergent technologies and their implications for the industry.

Growing collective capabilities for accurate and timely appraisal of advances in many fields through its innovation communities, knowledge sharing or "best practices" communities of practice is the firm's best chance to address the challenge of galloping "complexity multiplied by urgency" (Douglas Engelbart).

In-house communities of practice organize themselves by domains of practice which is characterized by an evolving body of knowledge. They steward the competence of the enterprise in that domain. Innovation frequently recombines facts and assessments in existing knowledge and the relationships between them. Therefore, how well those community-based knowledge assets are organized and validated is a substantive factor of the organization's innovation capacity.

*"When planning how to manage the value of knowledge resources, it is important to consider management as a set of functions managed by various players, not only managers... Community members act in partnership with formal team or business unit managers to manage the value of knowledge resources. Both parties negotiate to what extent these management tasks should be managed inside the community by its leaders and members or outside by business unit or corporate managers (or collaboratively, by both)."*¹⁰

The classification of terms used by a community in any domain can be one of the CoPs principal contributions to develop productive capabilities in general, and innovation capabilities in particular. Whilst individual domain experts can create useful drafts of taxonomies, ontologies, and other classification schemes, the participation in a shared practice makes community members better qualified for validating such schemes.

When domain knowledge is mapped and classified it provides a more fertile soil for the seeds of innovation to grow, by making easier to detect innovation opportunities in the potential cross-impact of the relevant knowledge integrated in the domain.

2. Implementation stage: better coordination through deeper trust

The implementation of radical innovation requires high-precision coordination of action across multiple teams, units, and communities. When coordination is lubricated by trustful relationship amongst the players, then there is less friction, its transaction cost is lower and results are better.

The relationship of innovation communities with potential customers and other external sources of innovation has an essential role in the implementation stage. Here's an interesting example from Xerox

10 Cultivating Communities of Practice: a guide to managing knowledge, by Etienne Wenger et al., Harvard Business School Press, 2002



PARC. “When we came up with a good idea, we often didn’t take it directly to the company. Instead, I used to engage in what I called operational judo. First, we got customers turned on to the idea by showing it secretly to them. That helped us make improvements by learning from customers. Once we got customers behind the idea, we unleashed them on the other parts of the company. We did that because we knew an idea from a customer would have greater credibility than one that came directly from us.”¹¹

When people in innovation communities - whether CoP or project communities - nurture their relationship with external sources of innovation, they also strengthen the meta-capability of collaboration, which is the N° 1 competitive advantage in the innovation ecology.

3. Commercialization phase: real stories build trust and market acceptance

When the innovation cycle turns into the commercialization stage, access to first-hand accounts of its successful uses by early adopters can accelerate innovation acceptance. Where could people in the next wave of adapters find those stories and give them more credibility than the ones polished by marcomm? Most likely, in the customer communities, where enthused early users share those stories and patterns of relevant experiences can be easily pieced together from the give-and-take of interactions in the community.

A case in example is the currently planned INTRo community of practice at Carnegie Mellon University. Their website says, “IDEALSM-Based New Technology Rollout (INTRo) is a structured approach for adopting and deploying new tools and technology... Our approach is designed to accelerate the transition of INTRo and knowledge sharing on software technology adoption. The community of practice will encourage **connections** between members - creating a knowledge network - as well as **collection** of assets”.¹²

Customer communities of practice are particularly essential to accelerate the adoption of an innovation if it is highly complex, such as the case of large software systems, their components and add-ons, in aviation, financial services, logistics, electronics, biotechnology, and other knowledge-intensive industries. “Participants in these communities help each other in the use of products ranging from software programs (e.g., Microsoft Word) to toy building blocks (e.g., LEGO[®]). They reinforce the value of the product in their lives through shared passions and experiences”¹³

Customer communities are popping up everywhere and becoming a source of product innovation from automobiles and cosmetics to wireless communications and open source software. Understanding and supporting the roles they play in the innovation game is instrumental to understanding and liberating the full innovation value of in-house CoPs in the commercialization stage. A sign of the growing importance “user innovation” is its website at MIT, that welcomes its visitors with the following opening statement: “Empirical research is finding that users rather than manufacturers are the actual developers of many or most new products and services – and that they are a major locus of innovative activity in the economy.”¹⁴

Indirect but foundational contributions of communities to innovation

- Communities can shape the organization’s culture

11 How Does Your Knowledge Flow? An interview with John Seely Brown, in CSC World Spring/Summer 2002, <http://www.csc.com/aboutus/cscworld/summer02/howdoesknowledge.shtml>

12 How Does Your Knowledge Flow? An interview with John Seely Brown, in CSC World Spring/Summer 2002, <http://www.csc.com/aboutus/cscworld/summer02/howdoesknowledge.shtml>

13 Turning Love into Money: How some firms may profit from voluntary electronic customer communities, by Jae Yun Moon and Lee Sproull, <http://userinnovation.mit.edu/papers/Vol-Customers.pdf>

14 More information available on <http://userinnovation.mit.edu/>



“Having developed the ability to learn in communities of practice, an organization has established a platform where collaborative problem solving and innovation are readily internalized as just the way people do their work.”¹⁵

What does it take for an organization to have the “ability to learn in communities of practice”? That question is worth to put into the focus of an action research in organizations with a strategic intent to grow a culture in which innovation occurs naturally, almost as by-product of how people attend their work.

- Communities can develop mastery in the art of productive conversations

“A key source of innovation is the close interaction with members in a community of practice that have developed the ability to have productive conversations. These dialogues in which assumptions are questioned as a matter of course and people are committed to build on one another’s ideas in a high-trust vessel for exchange, will contribute significantly to elevating the innovation quotient of an organization”¹⁶

Innovative ideas don’t appear from nothing; they are born in mindful, mind-opening and productive dialogues. To optimize the network of conversations—that makes up the organization—for innovation, one cannot overemphasize the importance of skillful facilitation of critical conversations within and across communities. The quality of community facilitation has a direct and high-value impact on the firm’s innovation capacity.

- Communities can help attracting and retaining key talent for innovation

Innovative people enjoy working in an atmosphere of innovation, which can be enhanced by communities of practice. Providing a safe environment of open dialogue, building on one another’s ideas, questioning assumptions, an organization’s communities of practice can become a factor in people’s decision to stay with it or leave if they get a financially better offer.

- Communities are competitive advantage in the world of business alliances

“The ability to form partnerships and to work across boundaries will be key to the choice of partners in the formation of [business] alliances. Given the strength of these emerging networks, the firm that is left behind will soon experience difficulty in the marketplace. Having extensive experience in setting up and making cross-functional communities of practice work, will place organizations at an advantage in the development of these alliances. From this perspective, communities of practice become essential components of the readiness required for competing in the emerging business environment of knowledge networks.”¹⁷

How communities support radical innovation

As we discussed in the “Great Symphony Paradox” radical innovation needs people who are members in multiple communities, and play a role of “cultural translators” between them. Their work adds to the diversity of knowledge assets and flows available to any innovation. It also leads to increased interest and

¹⁵ Leveraging Communities of Practice for Strategic Advantage, by Hubert Saint-Onge & Debra Wallace (Butterworth-Heinemann, 2003)

¹⁶ ibid

¹⁷ The Business Case for Communities of Practice, by Hubert Saint-Onge, <http://www.saint-ongetoolkit.com/businesspractice.html>



activities both in the centers and the periphery of the communities involved, opening more opportunities for radical innovation to occur.

Communities of practice are known for the value they create by incremental process improvements but they also have ways to support radical innovation. Perceiving the true potential of communities for radical innovation may need a shift in our unit of analysis. In the case of sustaining (linear) innovation, focusing on the internal innovation dynamics within a single community maybe sufficient. When it comes to radical innovation, it is more useful to focus on a network of connecting communities of practice as the unit of analysis. There many ways in which they CoPs foster radical innovation. They include:

- Through their online forums, knowledge bases, issues list, and other knowledge artifacts, communities of practice turn the tacit knowledge of their members into knowledge nuggets more easily available to support the cross-fertilization between the knowledge domains necessary for a radical innovation.
- The success of radical innovation frequently requires from the organization and its members the execution of precise practices for collaboration and coordination. Communities of practice can help validate, integrate and contextualize these practices.
- Belonging and participating in external professional networks, members of properly facilitated communities of practice can become sources for the creativity and out-of -box thinking that radical innovation is asking for. Knowledge brokers, peripheral participants, multi-community members, and other “cross-pollinators” of communities of practice are likely carriers of the seeds of radical innovation. Membership in multiple communities of practices can accelerate the flows of knowledge and trust across communities.
- Shift in deeply seated mental models, the mutual inspiration and push-back necessary to radical innovation, are most likely to occur in high-trust relationships fostered by the communities.

Given all the ways in which communities of practice can foster innovation, forward thinking innovation and strategic to management would want to develop a solid relationship with them as strategic partners.¹⁸

Whether the communities will fulfill their innovation potential, whether the firm can liberate their full innovation value, it largely depends on the quality of attention and support they will receive from the organization. The range of measures indicating that quality includes: person-centric technical support to knowledge harvesting and weaving (such as personal and shared learning journals), web-enabled knowledge flows and idea re-combination, and the training of learning facilitators, community hosts, cybrarians, and knowledge brokers.

Needless to say, communities of practice can foster radical innovation more when a strategic framework for alignment - with such functions as R&D, strategic management, KM, innovation management, and HR - supports their work. If supporting the firm’s communities of practice is central to raising its innovation performance, then developing the right strategy for collaborating with them and investing in their enabling infrastructures, may well be the highest-ROI investment in the firm’s strategic capabilities.

The most radical innovation of all

¹⁸ Strategic partners inform one another about their plans and needs in order to find ways to better mutual support



CommunityIntelligence

People freely associating with another, combining their talents, and sharing their learning edges to complete projects or upgrade their skills and invent new ones, are the most generative source of permanent innovation. Yet, in the “human resources” philosophy of the industrial era, employees simply meant to be resources to increasing share holder value. That passive view and role of knowledge workers are getting more and more challenged.

Self-organizing communities of practice in business and society are the most radical innovation since the invention of division labor. At the dawn of humankind, different individuals started developing specialties in different kind of work. Division of labor allowed the unfolding of the creative - and sometimes destructive - powers of human work, science and technology, as we know them today. With it, came the division between command-givers and command-takers, management and employees.

That mode of organizing work and society is running out of its usefulness and sustainability in the conditions of the knowledge economy that requires partnership instead domination, collaboration besides competition, and not more and not less than unleashing the full potential of all members of the organization.

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