# Learning Across Teams:
## The Role of Communities of Practice in Team Organizations
by
Richard McDermott[1]

*Many companies today are moving to a new organizational model in which cross-functional teams are the key building block of the organization. While cross-functional teams are great vehicles for producing products and services, they have some key limitations. Cross-functional teams can become insulated from each other, focusing on team goals and reinventing ideas and analyses from other teams. The "double-knit" organization links cross-functional teams together through communities of practice and enables teams to systematically learn from each other.*

## Sharing Learning at Shell

Ever since Shell Oil's Deepwater Exploration division reorganized into cross-functional teams, Mary, a petrophysicist, had a much easier time coordinating with the people she depends on for information. Located at the same end of the hall with the other engineers working on plans to drill a prospect in the Gulf of Mexico, she can informally stop by and discuss the timing of key aspects of the project, her interpretation of results, or the logic behind a conclusion. She can now immediately communicate information she used to wait for team meetings to share.

But she misses some parts of the old functional organization. When she was located with other petrophysicists, she could walk down the hall to discuss her interpretation of data with a colleague, find out how well a new analytic tool really worked, or hear about emerging issues in her field. Now she needs to *find* a colleague several floors away or make an appointment for an informal discussion. If she could only have the best of both worlds: easy contact with the other engineers working on her project *and* easy access to engineers in her own discipline.

## The Team Organization

*In many companies, teams are the building blocks of the organization*. Over the last decade, many companies have implemented a new model of organization. Instead of functional and departments -- like sales, engineering, and manufacturing – they are adopting team-based structures in which teams are responsible for key organizational outputs. In some cases these are whole products or services. In other cases, they are sub-products or elements of the organization's "value–chain" (Katzenbach and Smith, 1993). In manufacturing, teams of multi-skilled operators build a whole product, or major components of a product. In new product development, people from sales, marketing, research, engineering and manufacturing team up to design products and bring them to market quickly and cheaply. In professional service firms,

---

people with different backgrounds team up to provide a full range of services to a client. In oil exploration, teams of geologists, geophysicists, reservoir engineers, petrophysicists, and other disciplines team up to find and assess the potential value of an oil prospect.

*A team is a group of people with a common goal, interdependent work, and joint accountability for results.* In team-based companies, teams are composed of people from different professions or jobs so that all the knowledge and skill needed to produce a whole output is represented. They are frequently responsible for producing key products or services. Their business directives, common goals, and joint accountability tie them together into a cohesive unit. They usually sit together and report to the same boss (Katzenbach and Smith, 1993).

*Teams reduce hand-offs*. Because they are located together and share common goals, team members easily share the information and thinking that fell in the "white space" between the old functional silos. By focusing on a single output -- whether that's a major sub-assembly of a car or the design of an oil well -- teams develop a real sense of common purpose and focus. By working together in close proximity over an extended period, they develop a rhythm, rapport, common identity, and trust that vastly improves their ability to build on each other's ideas and solve business and technical problems.

*Teams <u>can be</u> great vehicles for learning.* To learn, people need both time to reflect and a safe environment. They need time to think about their experience and its implications and incorporate new insights into their current mental models. They need safety to explore new ideas and challenge their own assumptions. When they develop trust and rapport, people can feel safe enough to share their thinking, the reasons behind their conclusions, the questions they have about their conclusions, even their half-baked ideas. When they take time to collectively reflect on their experience, they can build on each other's ideas, deepen the richness of their thinking and insights.

## The Limitations of Teams

*But teams can become new silos!* People in team-based companies often complain that they have trouble getting information from other teams. They find out too late or not at all about work done by people in their own discipline who are assigned to other teams. They reinvent tools, analyses, or approaches developed by their peers on other teams. They waste time searching for information they know one of their colleagues has. The very thing that makes teams work well--common goals, shared focus, physical proximity, working rapport--can easily lead to two related learning disabilities; isolation and team myopia.

*Teams can get isolated*. Team members naturally focus inward, concentrating on team goals and connecting with teammates. When PepsiCo expanded internationally, teams charged with building the business in Eastern Europe, Russia, the Middle East and the Pacific Rim had no planned way to share experiences, insights and ideas with teams working in other regions. Result: every single team started anew, repeating the same mistakes and following the same blind alleys already explored by their predecessors. This sort of isolation is common for cross-functional teams. Even when team members fully intend to share insight and information with
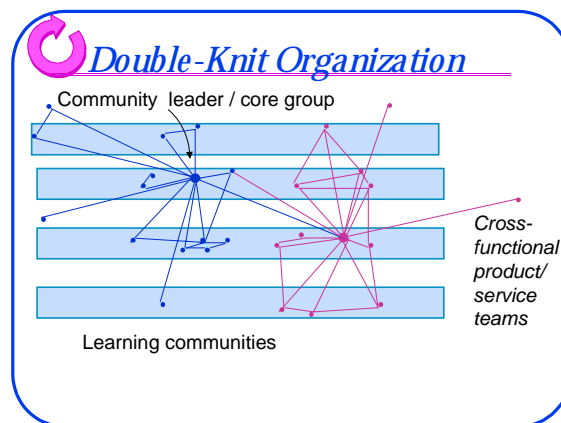
other teams, team goals often pull so strongly on people's time, that they simply cannot find the time to do so.

*Isolation can lead to team myopia.*  When teams have very little contact with other teams or are isolated for extended periods, they can get into the habit of rejecting ideas from outside and lose their ability to generate new ideas, that is, they can become myopic.  Research in creative thinking has long shown that new ideas usually come from the intersection of disciplines, perspectives, or ways of thinking (Leonard-Barton, 1997; deBono, 1973). Scientists often do their most creative work a few years after they changed fields.  Small companies working at the edge of a field often develop new technologies.  Teams' most creative ideas often come when they see how people in other companies or industries perform similar processes.  When teams lose touch with other teams, they often get into a rut of using the same approaches, tools, and ideas repeatedly.  This can be particularly hard for technical specialists on cross-functional teams.  When they lose touch with colleagues from their own discipline, they have trouble keeping up with developments in their field.

*Teams can easily neglect long-term capacity building*.  Most organizations need to balance the tension between short-term production goals and long-term capacity building.  On an organizational level, this is the tension between production and product development.  On an individual level, it is the tension between focusing on current projects and taking the time to develop and share knowledge.  Because teams are typically tasked with output goals -- producing a product or service – they tend to pull people toward the production side of this tension.  They tend not to see the value of building capacity beyond their team.  Frequently, they even have trouble preparing their members for the next generation of technical development.

## The "Double-Knit" Organization: Teams and Communities of Practice

*A double knit organization combines teams with communities of practice.* Several companies are trying a different way to link cross-functional teams.  Instead of sharing learning through team leaders, they are creating organizational structures that weave teams together through communities of practice.  Each community of practice focuses on a topic or discipline important to the organization.  They are responsible for sharing knowledge and standardizing practices.  This approach links the organization in two ways.  Cross-functional teams focus on outputs, typically products, major processes or market segments.  Communities of practice focus on learning within functions or disciplines, sharing information and insight, collaborating on common problems, stimulating new ideas.  Communities of practice are a way to preserve a



*Double-Knit Organization*

Community  leader / core group

Cross-functional product/ service teams

Learning communities

McDermott & Co., 1997             Leveraging Knowledge             11

discipline or technical focus, while cross-functional teams unite disciplines around common products.  Teams weave the organization together in one direction.  Communities weave it together in the other.

*A community of practice is a group that shares knowledge, learns together, and creates common practices.*  Communities of practice share information, insight, experience, and tools about an area of common interest (Wenger, 1998). This could be a *professional discipline*--like reservoir engineering or biology--*a skill*--like machine repair--or a *topic*--like a technology, an industry, or a segment of a production process.  Consulting companies, for example, usually organize communities of practice around both disciplines, such as organizational change, and industries like banking, petroleum or insurance (Peters, 1987).  Community members frequently help each other solve problems, give each other advice, and develop new approaches or tools for their field.  Regularly helping each other makes it easier for community members to show their weak spots and learn together in the "public space" of the community.  As they share ideas and experiences, people develop a shared way of doing things, a set of common practices. Sometimes they formalize these in guidelines and standards, but often they simply remain "what everybody knows" about good practice. Since communities of practice focus on topics that people often feel passionately interested in, they can become important sources of individual identity.

*Teams and communities of practice are different kinds of groups.*  Teams are tightly integrated units driven by deliverables, defined by managed tasks, and bound together by members' collective commitment to results.  Communities of practice are loosely knit groups driven by the value they provide to members, defined by the opportunities to learn and share they discover and bounded by the sense of collective identity the members form.

| Teams | Communities of Practice |
|---|---|
| *Driven by deliverables* | *Driven by value* |
| ▪ Shared goals and results | ▪ Shared interest or practice |
| ▪ Value defined by charter | ▪ Value discovered / evolves |
| ▪ Value in result delivered | ▪ Value in ongoing process |
| *Defined by task* | *Defined by knowledge* |
| ▪ Interdependent tasks | ▪ Interdependent knowledge |
| ▪ Clear boundaries | ▪ Permeable boundaries |
| *Develops through a workplan* | *Develops organically* |
| ▪ Everyone contributes | ▪ Variable contributions |
| ▪ Managed through objectives & workplan | ▪ Managed by making connections |
| *Bound by commitment* | *Bound by identity* |
| ▪ Joint accountability | ▪ Reciprocal contributions |
| ▪ Based on explicit agreement | ▪ Based on trust |
| ▪ Team leader or manager | ▪ Core group / coordinator |

*Driven by value*.  Unlike teams, communities of practice rarely have a specific result to deliver to the organization.  They are typically driven by the value they provide to individual members.  Individuals share information and insights and discover ideas which will save them

money, time, energy or effort.  The value individuals derive from the community is typically what keeps community members involved.  While a team delivers value in the result it produces; a community discovers value in many day-to-day exchanges of knowledge and information.

*Defined by knowledge*.  The heart of a team is a set of interdependent tasks that lead to an objective.  The heart of a community of practice, on the other hand, is the knowledge members share and develop.  Since community members apply their knowledge on teams outside the community, it is not possible to predict specifically what knowledge will be important to the community.  So communities of practice follow opportunities for sharing knowledge as they arise.  As a result, the "hot topics" in a community shift over time.  As topics shift new people join the community, adding their perspective and shaping the community's direction. While teams often have clear boundaries and membership, communities of practice have many partial, part-time, and marginal members.  Like a double knit fabric, they can stretch as topics and needs evolve.

*Develops organically*.  Teams progress by moving through a workplan.  Communities develop by discovering new areas to share current knowledge and develop new knowledge. Team members gauge their contribution by the tasks they are responsible for.  Community members gauge their contribution by their interest in and knowledge of a topic.  Communities frequently have a core group of high contributors and a large group of "lurkers," who ask or contribute little.  When we first discovered this distinction in a community of geologists we thought -- following good team principles -- that we should have even participation.  Before actively encouraging the lurkers to "help carry the weight of contribution," we interviewed them and discovered that most had been with the organization less than two years.  They were using the community to learn about a branch of geology new to them by listening to world class experts discuss leading-edge problems. Managing a team is coordinating interdependent tasks. Managing a community is making connections between members and keeping the topics of the community fresh and valuable.

*Bound by identity*. Communities of practice frequently form around disciplines or topics which community members have invested many years thinking about and developing.  In the course of helping each other, sharing ideas and collectively solving problems, community members often form strong bonds.  Despite the community lurkers, high contributors often say they contribute because they "owe" other high contributors their insights. In team based organizations, communities of practice are often the only place members can get feedback from knowledgeable peers.  And praise from community members is often more meaningful than praise from team leaders who know little about the details of your work.  So people often have a great deal of their professional identity tied up in their communities.

*In a double-knit organization, communities of practice compensate for the limitations of teams.*  By linking experts from different teams together, communities of practice mitigate the isolation of cross-functional teams.  The community provides information and insight on tools, analyses, and approaches current in the discipline. Community coordinators typically know who is working on what technical problems and who the current experts are in each topic area.  So they can quickly link individuals on cross-functional teams to peers in their discipline.  They are a ready reference for finding others to help solve tricky technical problems.  One group of

geologists at Shell used their global geology network to find a group with whom they could review a controversial analysis. The joint analysis saved the group considerable amount of money. By sponsoring workshops on new technical areas and hosting a mentorship program, another community develops and maintains their capability in the discipline. Combining cross-functional teams and communities of practice is a powerful way to create an organization simultaneously oriented to output and learning.

*Communities of practice stay together against the pull of teams by providing value to their members*. Clearly, teams are a stronger connection than communities of practice. They pull harder on people's time, commitment, and energy. Communities of practice that cross team boundaries inevitably compete with teams for people's time. Most stay together because members find participating in them valuable. But in the tug of priorities, personal value is often not enough to keep communities together. To compensate, American Management Systems has made community participation a high-status event. Original community leaders were invited by the Chairman of the Board to participate and community members attend an annual high visibility "invitation only" conference.

*A double-knit organization is different from a matrix.* The double-knit organization is a solution to an old organizational problem: how to coordinate cross-functional products and services and still keep people on the cutting edge of their functional discipline? But matrix organizations use the same kind of structure—a reporting relationship—on both axes of the organization (Davis and Lawrence, 1977). People have a functional and product manager. A double-knit organization is different. It weaves the organization together using *different kinds* of structures; tightly knit teams on one side; loosely-knit communities on the other. Since communities of practice have flexible boundaries, no reporting relationships and no resource allocation responsibilities, they are very different from functional organizations. Although we can develop them, they are essentially self-managed and self-organizing.

## Building Communities

*Communities of practice are natural phenomena.* Communities of practice arise out of people's natural desire to share ideas, get help, learn about new ideas, verify their thinking, and hear the latest "professional" gossip. They develop as people have regular contact with colleagues who share their interests. But in team-based organizations, most day-to-day contact is with other team members. To share learning across teams, it is necessary to extend natural networking across the chasm of lack of daily contact. This usually means that you need to create *intentional* communities of practice. Intentional communities are intentional in their focus, start-up activities and support, but to develop the trust, connection and sharing of natural communities, it is necessary to support the natural process of community development, rather than impose an artificial one.

*Starting and supporting communities of practice is very different from team building*. Since communities of practice are organized around knowledge, not outputs, traditional team-building activities of setting goals, dividing tasks and developing workplans are not appropriate. Starting and supporting communities of practice follows a different set of guidelines.

- *Build communities around a few important topics*. Organizations frequently cast "too wide a net" when initiating knowledge management approaches and end up building stockpiles of underutilized information—information junkyards. To leverage knowledge effectively, start with a few communities of practice focused on topics important to the organization. Focusing on strategically important topics will make it considerably easier to expand beyond the original communities.

- *Find and build on natural networks.* Whether the organization supports them or not, communities of practice arise naturally in most organizations. So don't create new communities. Once you have identified an important topic to form communities around, find the networks of people who already share knowledge about that topic. They are likely the seed of your community.

- *Develop community coordinators and core groups.* A key success factor for intentional communities is to have a coordinator who organizes and maintains the community. This coordinator is usually a well-respected, and well-connected community member. The coordinator invites people to participate, links people together, finds exciting topics for the community to address, connects outside the community, and generally keep the community vibrant. Coordinators usually rely on a core group of community members to contribute.

- *Initiate some simple knowledge sharing activities.* Since intentional communities of practice are a new approach to organizational structure, they are difficult for people to really understand. Nothing conveys what they are about better than the experience of sharing insights in a regular forum, supported by a coordinator and/or facilitator. Rather than explaining or extensively designing communities of practice, engage people in participating in them by starting a few in your organization.

- *Support communities*. If the organization values learning and sharing knowledge, it will provide a rich ground for growing communities of practice. But that means managers need to give people the time and encouragement to reflect, share ideas with other teams and think through the implications of other teams' ideas.

- *Create a community support team.* Because they are organized and supported differently from teams, community development requires a different set of tools and approaches. Form a team to find, practice and use these new development tools.

- *Be patient.* Communities of practice often take time to develop. One of the most successful communities at Shell started as a group of six to eight people meeting weekly to discuss cutting edge issues. It took six months for word to spread of the value of these discussions. Then attendance at the weekly meetings grew to about 40 people. Because they are organic, communities of practice need time to find the right kind of information to share, the right level of detail, the right participants and the right forums. Support the community in making these discoveries quickly. But since this the information, level of detail, participants and right forums will be different for different communities, they will need to make these discoveries on their own.

## Summary

*Sharing learning across teams involves more than project post-mortem briefings or documenting lessons learned*.  To convey the depth of people's insights in a way that's valuable to others, learning needs to be *an exchange* in which people build enough relationship to understand and make sense of each other's ideas.  A double-knit organization is one way to do this.  Rather than sharing learning from one whole team to another, it links individual team members with people from other teams in networks and communities of practice.  Communities of practice create the trust and understanding that allows people to share mistakes as well as accomplishments and half-baked ideas as well as brilliant insights.

## References

Jon Katzenbach, Jon and Douglas Smith
1993    *The Wisdom of Teams*, Boston: Harvard Business School Press

Leonard Barton, Dorothy
1997    *Wellsprings of Knowledge*, Cambridge: Harvard Business School Press

de Bono, Edward
1970    *Lateral Thinking*, New York: Harper & Row

Wenger, Etienne
1998    *Communities of Practice.*  Boston: Cambridge University Press.

Peters, Tom
1987    *Thriving on Chaos*, New York: Alfred A. Knopf,

Davis, Stanley and Paul Lawrence
1977    *Matrix*, Reading, Mass: Addison-Wesley