



Basing Collaboration on Skills, Not Location

By Vicki J. Powers

The phenomenon of employees participating virtually on global project teams has become widespread, as communities of practice virtually link professionals based on their discipline or knowledge expertise and not their location. The recognition and desire for virtual knowledge management is increasing, the American Productivity & Quality Center (APQC) has found, with new business drivers and environmental conditions.

“Given the pace of business and a global marketplace, the need to virtually collaborate is a must,” said Farida Hasanali, project manager of APQC’s Knowledge Sharing Network. “The speed of decision making has increased tremendously, which requires that people collaborate in real time, even when they are on opposite sides of the globe. Because of this necessity, organizations need to support virtual collaboration with robust tools and collaboration norms.”

A Necessary Tool

APQC defines virtual collaboration as teams of people who interact electronically with minimal opportunity to meet face to face in order to achieve common goals and objectives. Virtual collaboration is an increasingly important component of the business environment because it enables organizations to access talent no matter the location.

“Whereas the global marketplace and organizations relying on technology for real-time communications may be the reason the number of virtual interactions are increasing among employees, the drivers do not ensure successful virtual collaboration,” said Kimberly Lopez, a project leader in APQC’s Custom Solutions Group.

Ideally, Lopez said, virtual collaboration should prevent redundancy in research and projects across the organization. When geographically dispersed teams can work together, individual projects or silos are not an issue.

To transition to a virtual environment or project, organizations must take the aspects they already know from “good business practices” and apply that to a virtual space. Part of that, according to Lopez, relates to setting and managing expectations when the virtual environment begins. This involves determining people’s roles and responsibilities as part of the project or community.

“It’s easier when you’re ‘co-located’ to touch base on a regular basis,” said Lopez. “It’s harder in a virtual area because team members don’t have the ease of getting in touch. If you don’t set expectations in the beginning and just try to go in a virtual space, there is a higher potential for failure.”

Technology and Change Management

New tools and technology—including voice mail, e-mail, videoconferencing, and the Internet—obviously make it easier to collaborate and bridge the distance from one location to another. The marketplace has exploded with new software applications that support collaboration, said Hasanali. And existing technology vendors are expanding their product lines to include collaboration modules.

But according to Lopez, virtual knowledge management is more about change management than tools and technology. It concerns changing the way people work by:

- defining processes based on business drivers,
- establishing trust through opportunities for face-to-face interaction, and
- determining when it is appropriate to collaborate across regions or borders.

“If organizations expect people to work in a different way in a virtual environment without preparation, it could extend the project time and costs of the project,” said Lopez. “On the flipside, if you do these things on the front-end to ensure success, then ideally you would expect project times and costs to be reduced.”

Boeing Rocketdyne, for example, examined a virtual collaboration project that had clear roles, an assigned facilitator, and full-time support. With the project’s success, Boeing Rocketdyne could identify characteristics that are essential for successful virtual collaboration in its organization. As reported in APQC’s benchmarking report [Using Knowledge Management to Drive Innovation](#) (2003), some of these elements include trust, long-term objectives, mutual respect for others, flexibility, shared risk and reward, acknowledged interdependence, and an atmosphere of cooperation.

CH2M Hill’s Completely Virtual Community

Virtual communities of practice enabled CH2M Hill -- an engineering, design, construction firm with more than 11,000 employees -- to save between \$6 million and \$10 million a year by acquiring and sharing knowledge and best practices.

CH2M Hill hired APQC in 2001 to conduct a full KM Assessment and Strategy Development exercise that started by interviewing 23 thought leaders in the organization affected by or a critical part of knowledge management. One of APQC’s recommendations focused on developing communities of practice (CoPs) for the business disciplines.

APQC and CH2M Hill’s CoP design team spent six months creating the structure, membership, and technology of the first community targeted at public involvement. A unique aspect of this project was that absolutely all activities occurred virtually. To date, CH2M Hill operates several communities in topics such as computer-aided engineering and security.

CH2M Hill believes it is not practical or affordable to bring employees face to face on a regular basis. Unlike some organizations, which initially bring CoP members together to design and launch the community, CH2M Hill operates its CoPs in a completely virtual environment.

“Our organizational culture is one of technology, innovation, and collaboration; so it was not a leap to devise a knowledge management strategy with these same elements,” said Marie Keister, leader of the public involvement CoP. “We use e-mail, phone calls, and Web-based technology to facilitate communication and build a sense of community among our various professional groups.”

According to Keister, CH2M Hill has not experienced any issues of mistrust that might be associated with operating in a virtual environment. Keister explained “mistrust” was identified as one pitfall to watch for based on other companies’ experiences. But CH2M Hill’s company culture-founded on collaboration-made the design team suspect it would not be an issue.

“Our professionals have been very willing to share their expertise with others,” said Keister, “and in fact are eager to document best practices and gain recognition as an expert in their various disciplines.”

Keister said that one of the most critical factors that has helped the virtual communities thrive and achieve success is the energy of practice leaders to locate experts and best practices to share and the energetic community of practice members willing to ask for help and share ideas. “If leaders and end-users don’t have the energy to reach out and share knowledge, this is all a useless exercise,” said Keister.

Boeing’s Collaboration for Innovation

Boeing Rocketdyne, recognized as a best-practice organization in [Using Knowledge Management to Drive Innovation](#), provides another example of an extremely successful virtual project.

Boeing created a geographically dispersed team to design a new type of rocket engine in a virtual environment. Unlike CH2M Hill's example, this group came together for two weeks in the beginning to understand each other's expertise and technical level, establish trust to work together, and learn the tools to enable virtual collaboration. This served as a critical success factor for Boeing, according to Lopez.

Boeing's virtual team, referred to as SLICE, used an Internet notebook and a project vault to store information and provide secure access from anywhere. The amount of knowledge became overwhelming, and the project team leader added twice-weekly brainstorming sessions through teleconferencing.

This team operated virtually for the remainder of the project and achieved many breakthrough innovations and cycle-time reductions. As a result, the SLICE team created one of the first two new, liquid-fueled rocket engines in the United States in more than 25 years. It also reduced cycle time from three-and-a-half years to nine months and reduced manufacturing costs from \$7 million to \$500,000.

As detailed in [Using Knowledge Management to Drive Innovation](#), Boeing's Robert Carman believes "a virtual team can actually be more efficient than a site-based team, but the discipline to make it work is much different and has to be adhered to religiously."

The Boeing example shows that virtual collaboration eliminates many negative aspects of external collaboration and requires the use of richer, more varied tools and environments to be successful.

Exploring Best Practices in Virtual Collaboration

APQC's new benchmarking study [Virtual Collaboration: Enabling Product Teams and Communities](#) kicks off in September 2003. This cross-industry study will search for best-practice organizations that have discovered new ways to address the common barriers of working virtually, as well as understanding the design, deployment, support, and evaluation required for effective virtual collaboration.

Vicki J. Powers is a freelance writer based in Houston. She has written a number of APQC articles, including "APQC Embraces Six Sigma Internally" and "Knowledge Mapping Guides Organizations to Knowledge Within its Walls."

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