

KNOWING THE DRILL: VIRTUAL TEAMWORK AT BP



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On a cold day on the North Sea in 1995, a group of BP Exploration drilling engineers had a problem. Equipment failure had brought operations to a halt—and because they couldn't diagnose the trouble, they faced the prospect of taking the mobile drilling ship (leased at a cost of \$150,000 a day) back to port indefinitely. Instead, they hauled the faulty hardware in front of a tiny video camera connected to a newly installed computer workstation. Using a satellite link, they dialed up a BP drilling equipment expert in Aberdeen. To him, the problem was apparent, and he guided them quickly through the repair. The down time, as it turned out, lasted only a few hours.

The equipment aboard the ship was there thanks to a pilot project BP had just undertaken called "Virtual Teamwork." The name reflects the aim: to support collaboration across the barriers of distance and organizational structure, through the use of sophisticated technology.

The project had grown out of BP Exploration's reorganization a year earlier into forty-two separate business assets. Prior to that, exploration activities had been carried out by a few closely controlled regional operating centers. Believing that smaller, more autonomous businesses could work more efficiently and creatively, Managing Director John Browne had overseen the transformation of the company into "a federation of assets," each with the freedom to develop processes and solutions to serve its own local needs. The assumption was that some local initiatives would turn out to be applicable elsewhere in the company. BP would benefit from the variety

After highly centralized BP Exploration was reorganized into a “federation of assets,” new ways had to be found to enable knowledge-sharing across parts of the business. One success has been videoconferencing. BP piloted the technology in five geographically dispersed work communities, being careful to set clear business goals by which to measure its value. The project team knew it was not true that “if you build it, they will come.” People with much to gain from the new capability still required coaching to see how it could enhance their work.

article abstract

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and creative power of forty-two moderate-sized companies sharing their experiences.¹

Good communication was clearly essential to making the federation work. In videoconferencing technology, Browne and others saw potential for fostering some of the creative synergy they sought. Accordingly, management authorized an eighteen-month, \$13 million pilot project to test the concept.

Designing the Pilot

Browne asked John Cross, then head of Information Technology, to lay the groundwork. Cross's first decision was that the project should be undertaken by an independent group formed for the purpose—not “owned” by Information Technologies. He wanted to emphasize that the objective was behavior and work pattern change, not technology. It also made sense, given the aim of transcending organizational boundaries, that the project team be drawn from diverse parts of the company. A core team of five was appointed, most of whom had had experience in more than one area. It was led by Kent Greenes, who worked in Human Resources and had a background in Operations.

The team began work in December 1994, specifying hardware and software for the Virtual Teamwork station (or “client”). The package included desktop videoconferencing equipment, multimedia e-mail, application sharing, shared chalkboards, tools to record video clips, groupware, and a web browser. A document scanner—a last-minute addition that

proved extremely useful—completed the setup. Connections were made using ISDN lines and, where necessary, satellite links.

For the pilot, the team decided to equip five different communities with Virtual Teamwork clients, to provide enough variety for a fair test. First, they chose the Andrew Project group, which was completing a new drilling platform for an emerging oil field. The others included a mature oil field group; an established network of experts who had already been communicating with each other by e-mail, newsletters, and occasional meetings; a new network of geoscientists and engineers formed specifically for the project; and what the team called the “business center network.” This last consisted of five VT clients placed in key BP offices around the world, each with a full-time “host” whose job was to encourage its use at that location.



In establishing the goals of the project, the emphasis was entirely on promoting the achievement of business goals. Performance agreements were co-developed by the core team and participants in each of the five groups. Goals included increasing the efficiency and effectiveness of decision-making, reducing costs, adhering to schedules, and solving problems creatively. Recognizing the importance of measuring these results objectively, the core team hired an independent consulting firm to perform the task. The consultants helped generate the list of expected benefits at the start and tracked actual results as the pilot progressed.

The Importance of Coaching

A subgroup of the core team called the Change Management Team was responsible for helping participants understand both how to use the technology and how it could further their work. This effort was deliberately called "coaching" rather than "training": coaches work to get the best out of players—they don't simply present information to passive recipients. Only twenty percent of the coaches' time was designated for training people in how to use the system. The rest would consist of challenging and helping them to exploit its capabilities to serve their business needs. The core team was so convinced that extensive coaching was essential to the success of the project that they spent approximately half the pilot's budget on it.

An unplanned experiment helped prove them right. Due to budget constraints, one of the projects—the new network of geoscientists and engineers—was set up without coaching. The members of what was called the Virtual Petrotechnical Team were given VT equipment and essentially left alone to find uses for it. This project was the only one of the five that failed. The problem was not that the group couldn't make the technology work—it was fairly simple to operate. What they lacked was an understanding of why they should bother. Remarks from the team ("I don't see how this fits in with my work." "The people I want to talk to are not on the network.") were similar to those made initially by other teams. In part because there was no one to help the group explore the value of the system and overcome their skepticism, their VT network declined and eventually fell silent.

Proof of Concept

In the four other groups, once clients were put in place, project directors were surprised at how quickly virtual teamworking became an integral part of their work. Teams began to experience the benefits of the system within weeks—in some cases within days—and enthusiasm and use increased.

The Andrew Project provides a good example of the positive impact of virtual teamworking. The use of VT technology was one of two innovations on the project. The other was the decision to complete as much of the platform as possible on shore before moving construction to the offshore drilling site. There was no link between the innovations, but together they

The ability to assemble the most knowledgeable individuals around a problem *ad hoc*, rapidly and inexpensively, has been one benefit of BP's "Virtual Teamwork" program. Amongst established teams, videoconferencing has enriched collaboration, reduced iterations and slack time, and fostered greater levels of mutual trust and commitment. Based on the success of its pilot testing, BP has rolled out VT to many additional sites.

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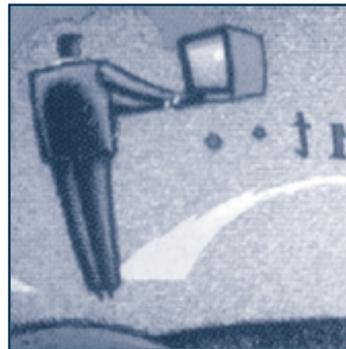
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seemed to create an enthusiasm for doing work in new ways. Building the platform was a joint effort by BP and two other companies: Brown & Root, a Houston-based design and engineering firm with an office in Wimbledon; and Trafalgar House, a Teesside construction company. This project would test virtual teamworking's usefulness not only in connecting employees over distance but also in linking separate organizations. Initially, Trafalgar House expressed doubt; they questioned whether the value of a face-to-face meeting could really be provided by viewing distant team members on a computer monitor.

Certainly, virtual teamworking did not eliminate the need for meetings. Colleagues still needed them to establish mutual trust and to hash out important issues involving large groups. Meetings were, however, significantly reduced. Having met once, participants found that videoconferencing maintained a richness of communication and a sense of direct personal contact that phone calls, e-mail, or memos could not match. Before long, even Trafalgar House praised the system.

But the quantifiable benefits on the Andrew Project went well beyond reductions in travel expenses and time. There were also measurable productivity improvements related to more efficient information searches and issue resolution, and less "miscommunication." One finding was that commitments made "face-to-face" using the VT stations were honored much more consistently than commitments made by phone or mail. (This underscores John Cross's point,

that the project was principally about behavior, not technology.) Time frames were also compressed by things like the VT clients' application-sharing feature, which allowed teams to write memos jointly, avoiding hours or days of sending drafts back and forth. In sum, virtual teamworking contributed significantly to the project's meeting its target date and incurring a much lower total cost of steadily bringing forward first oil, a principal milestone in the development of a new field.



Unexpected Uses

The VT team was even more encouraged by some spontaneous and relatively unstructured uses of the technology they observed. Although the immediate benefits are less clear than the cost reductions and productivity increases of the Andrew Project, these explorations suggest that virtual teamworking is developing a life of its own, and may have far-ranging impact on the way work at BP Exploration is done.

For example, VT users began communicating across projects, with members of the Andrew Project, for instance, contacting members of the Miller Team. The connection was important: much of the knowledge the latter team had gained from a now-mature oil field was highly applicable to work on the emerging Andrew field. The collaboration inspired an imaginary headline—"Scottish oil discovered in Alaska!"—coined by the core team to proclaim VT's ability to nullify distance and transfer knowledge.

The "hosts" of the Business Center Network, meanwhile, decided to hold weekly "virtual coffee breaks." The idea was to try to mimic a knowledge-sharing opportunity that co-located employees enjoy every day. Famously, "water cooler conversations" are how people absorb corporate culture; they also bring about chance conversations that sometimes spark creative ideas. With no set agenda announced, these virtual coffee breaks have attracted up to twenty people at eight separate locations. Their expectation—and the company's—is that the conversations will pay off in unpredictable ways.

Another unplanned use of the network allowed teamwork to transcend not only distance but time. Quarterly, Rodney Chase (head of BP Exploration) holds a Performance Review where reports are submitted by managers of all the firm's assets. In the past, the review was a mish-mash of live presentations and, from those managers who could not make the meeting, prose reports or bullet-point slides. Four days before the December 1995 Quarterly Performance Review, it occurred to one of Chase's assistants that VT might enrich the review. Working through the Business Center Network hosts, the VT team arranged for every asset manager to create a video report. As well as increasing the review's quality, the effort extended its reach. All reports were taped and subsequently published on CD-ROM, to make them available to senior managers worldwide.

Next Steps

Based on the success of the pilot, plans were approved to expand Virtual Teamworking by a significant number of new clients in 1996. By the end of 1997, the team hopes the equipment will be available to a high proportion of professional staff—providing the "critical mass" needed to transform the company into a far-flung but close-knit federation of business units and workers.

They are currently developing online videocon-

ferencing "yellow pages" to replace the pilot project's simple phonebook. Yellow page listings will include photographs and short biographies noting individuals' interests, not just their formal roles. The team also hopes to integrate a knowledge base into the system that will guide people with questions to sources of expertise.

At the same time, BP established a knowledge management task force, reporting to Director Russell Seal, whose purpose is to identify and recommend new opportunities and strategies for organizational learning and knowledge sharing. The task force will evaluate knowledge activities inside and outside the company to determine which should be expanded or introduced. Building on the objective of the Virtual Teamworking project, the goal is to improve performance by promoting behavioral changes that will make continuous learning and knowledge-sharing the company norm.

1 The idea of a corporate federation is similar to the "multilocal" structure Nonaka and Takeuchi describe in *The Knowledge-Creating Company* as part of Matsushita's corporate aim to become a "possibility-searching company." Nonaka and Takeuchi remark on "the importance of transcending the dichotomy between localization and globalization," an apt description of Browne's aim.