Inside**Knowledge**

Up close and personal

The rise of personal KM

The knowledge | Andy Boyd

Having first come across knowledge management in action in the late 1980s, Andy Boyd has been an advocate of people-based KM at Shell. **Sandra Higgison** talks to him about the scourge of document databases, rule breaking and the renaissance of the librarian.

W hen Andy Boyd came across a group of university engineering students sharing lab results and discussing their outcomes via e-mail, little did he know that the concept would form the basis of his work for the next 20 years. While the various roles he has performed at oil-and-gas giant Shell have developed considerably, they can each trace their roots back to the desire to create, sustain and grow communities of practice (CoPs). His experience with knowledge management, and success at nurturing communities and global networks have led him to break many of the rules consultants hold dear and cast doubt over the value of some well established KM practices.

A physicist by training, Boyd was working in Shell's refinery business in the late 1980s and was doing some part-time lecturing at a university lab in Houston when he accidentally came across what would later be called knowledge management. "I was lecturing about some fancy optical work I'd completed but was having trouble getting through to the students. As a Brit and a native Welsh speaker, they probably thought I was talking too fast in a strange accent and spelling things incorrectly. To try teaching them about scientific methodology I gave them experiments that would deliberately give vague results. They were confused as I wasn't interested in the results, just the methodology used to get them."

Unbeknownst to Boyd, one of his students found a way to help the group work through its confusion by creating an e-mail distribution list on an IBM mainframe system. He got the other students to send him their lab results or questions and posted them to the other 60 students for them to discuss. When Boyd learnt about the group he was curious to find out more. "As I read their conversations I saw that they were debating in a sensible way. I talked to the students and realised it was a great way of brokering knowledge."

Bringing his experience back to Shell, Boyd soon found an area where he could apply this learning and make use of the same IBM mainframe as they searched for a solution for an overloaded central technical team in The Hague. Boyd was invited to a meeting with his central automation team. "I tried to explain to this group of 15 people how e-mail could help. At first, all I had were blank faces and I thought I'd not explained it well," he says. "I now realise that the concept of a community of practice – although that term did not exist then – is not easy for many people to grasp." Boyd explained how people could ask questions by e-mail and receive replies with links to relevant documents, information sources or further contacts that everybody else could see. The group in The Hague soon understood how the community could radically reduce the number of requests it received.

Boyd's success at turning the idea of a community into a reality has left him with a longstanding sense of achievement. The first community started with a group of 50 people from across the automation business and pre-arranged conversations. "We included people

from around the world to show how you can ask questions, and how you're allowed to disagree, but you have to be polite," says Boyd. Within a few months this group grew to 650 members with three to four e-mails a day. "One of the most interesting and unexpected things was that we started to see experts who had been hidden within the Shell organisation shine. They may have lacked project-management or presentation skills, but when hooked up with likeminded people they came into their own. As we could now see them we started moving them around the business."

News about the strange thing they were doing with e-mail began to spread and reached the most senior levels of the organisation. Asked to give a presentation about the team's work to the board and chairman, Boyd explained how the community prevented about 40 per cent of work requests going to The Hague each year as other people were responding to questions, a saving of 16 man-years. Impressed, the board gave the team some money from the treasure chest it kept to fund great ideas.

nearly 40 times the average," he says. "I told him about the forum and how people used it, and he asked for proof that it was worth this much money."

Boyd was faced with a very tricky knowledge-management challenge and had three months to demonstrate the value of the community. "People were using the forum and finding it valuable. To measure the KM impact, we created a form that popped up whenever replies to queries came in asking how much time the information had saved them." Within three months, by equating the number of hours saved to the average cost of a Shell person in automation, Boyd's team identified several million dollars in timesavings, which kept his director happy.

The same feedback form also appeared when people used the database and revealed an unexpected and interesting fact. "We found that the database created only 15 per cent of the value, while 85 per cent came from the discussions," says Boyd. "We had thought it was working well so tracked the value over the following year and saw it drop to ten per cent as

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Armed with a budget and the discovery, following a chance conversation with some consultants, that what they were doing was called knowledge management, Boyd decided to focus on the knowledge the community had already captured. "We estimated that we had about 60,000 documents, half of which were already electronic and all of which were only accessible locally," he says. "To establish a classification system and know whether a document demonstrated good practice we needed someone who understood the sector. Luckily, a senior automation engineer had just retired and he worked three days a week for nine months on the task. It was an expensive solution but he whittled 60,000 documents down to 3,000, made sure they were up to date, put them in a database and made them available via the web."

As the community learnt to use the database Boyd could see that usage was growing, with people adding as well as taking documents out. At the same time, a director who had just joined the business was looking at the department's IT costs. "E-mail charges back then were based on how far the e-mail went, how many you sent and how big it was. As I was managing the community and sent three to four e-mails to 650 people around the world every day, my e-mail account cost

it grew and became more difficult to use." This is one of the biggest KM lessons Boyd has learnt. "The problem with finding a document in a database is that it is rarely exactly what you want. But if you talk to someone, you can understand each other's context. They can put five lines in an e-mail, send you a relevant document, tell you that only certain chapters are useful and share lessons from their own experiences."

As Boyd says, just because knowledge can be captured in a document doesn't mean it retains its value. "Knowledge sits between people's ears; you can't manage it. What we can do is create processes to help people get together and encourage them to talk and share their knowledge. To me, knowledge management is about looking for natural working practices and nudging them a bit with KM practices. For example, communities of practice build on people's natural tendency to talk to one another. Telling people to search a database for information before they start doing anything is completely new." The discovery that the database's maintenance would require 60 per cent of the team's costs while delivering only ten per cent of the value sealed its fate.

His idea that communities work better than document databases took him to different parts of Shell. In the exploration and

Curriculum Vitae

Name: Andy Boyd
Age: 40
Place of birth: Maentwrog, Wales
Education: Physics (BSc Hons, DPhil)
Employment history: A life long Shell career, in UK, US, Malaysia, and The Netherlands, initially in the area of Automation and Control/Measurement Physics, and latterly (since early 90s) working in the area of knowledge management
Personal strengths: Remaining a people person in a sea of SAP and Microsoft products
Must improve: Not to be so forgetful
Biggest inspiration: Anke, Femke and Owain
What I do to relax: I make fine furniture and rock climb, but mostly spend time with my wonderful wife and our two children
Favourite film: Donnie Darko
Must read: Having just read this I'd say *A Short History of Nearly Everything* by Bill Bryson - purely from the point it reminds us how much we do not know and how little we have mastered - a valuable lesson in the field of KM.

"These new technical global networks numbered thousands in membership. We seemed to break all the rules. Consultants would say that they are too big and will fail because very few people have met each other face to face. Yet we believe that for a community to work you need everybody that could possibly be involved in a topic in it. If that means you have 5,000 people or 50, so be it."

production (EP) business he founded a KM team with Arjan van Unnik that quickly built 107 communities in a year. Recognising that the duplication and high number of forums were putting people off joining, they set about merging them into three global networks focused around the wells, surface and subsurface parts of the business. "I admit that at the time I didn't think it would work," he says. "I thought they would be too big and would lose their personal nature, but it worked like a dream each time. Everyone could see the synergies between the different engineers working in their areas; contributions and membership soared."

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"Consultants would say that they are too big and will fail because very few people have met each other face to face. Yet we believe that for a community to work you need everybody that could possibly be involved in a topic in it. If that means you have 5,000 people or 50, so be it." As more communities began to appear, more people were needed to facilitate them, which led senior managers to ask how much value was being generated. In 2000, Boyd's team found that in 2000 the EP communities of practice saved Shell so much time that for every hour someone spends on a community they get on average seven back.

In 2002, Boyd joined Shell's plastics joint venture, Basell, and was given a budget to drive R&D with knowledge management. "The plastics industry needs to innovate to survive," he says. "We wanted to partner with a university and fund a research programme for this area." Having looked at academic institutions in both Europe and the US, the Dutch Telematica Instituuut was selected as the organisation that best matched Basell's requirements. "Nearly all the universities talked about knowledge management in terms of improving search and retrieval, and content control, but didn't talk about people. The Telematica Institutuut hadn't done a lot with KM, which was great."

The partnership has created a huge portfolio of work. It also introduced Boyd to weblogs, which have become a particularly effective knowledge-management tool for researchers. "Essentially, blogs are an extension to a researcher's lab notebook," he says. "We were trying to find out if they would be useful for transferring knowledge. However, we discovered they had added value as an innovation support tool. If you write about your ideas from your research, colleagues from other companies can offer advice at the concept stage. The best interactions are those that cross disciplines when people recognise the synergies shared by their work."

Today, Boyd finds himself in Shell Global Solutions addressing, among other things, the industry's aging work pro-

file or as the Americans call it, the impending crew change. "While oil is being found in more unusual places around the world, we are also facing a potential skills gap," he says. "Not only are fewer people studying the science and engineering courses we look for but we're also competing against banks, legal firms and consultancies when hiring. Once we have them, we must transfer the knowledge held by those about to retire faster than we've ever had to before. It's presenting us with some interesting challenges."

While working to ensure Shell's future employees are up to scratch, Boyd also contemplates what lies in store for him. A 20-year career within one organisation may motivate some people to move on, but he seems disheartened with many of the KM initiatives he has witnessed in the outside world. "KM still seems be tool driven in many companies. From the benchmarking we've done it's clear that most of the players who excel at this use really simple tools. The first community

I built still runs on e-mail." Indeed, if Boyd had an unlimited budget in addition to employing new technologies he'd also bring old-fashioned librarians back into Shell. "It is so easy to create and search for documents today, but it's the librarians who know about their quality. Those parts of the organisation that still have librarians really know what they know."

Squarely focused on the people side of knowledge management, Boyd summarises his work into a phrase that will be familiar to many, 'ask before, learn during, share after'. As this mantra is one he and his colleagues preach and practice, he is confident that despite ruffling a few external KM feathers with some of his assertions and bending the so called rules when building communities of practice, knowledge management will continue to flourish and deliver tangible value at Shell. ■

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