Week 6 – Case Study
Driving operational excellence through Communities of Practice
The Case of ChevronTexaco

Like many organisations, ChevronTexaco has had informal communities in place for a number of years. Taking the drive for improved health and safety as a starting point, ***Jeff Stemke*** *explains the company's decision to develop a more formal approach to community development, in turn outlining some of the success stories that have helped to justify the central role networks now play.*

Context

Operational excellence (OE), one of ChevronTexaco's central business strategies, focuses on building world-class performance in safety, health, working environment, reliability and efficiency. Our objectives are to:

- Achieve an injury-free workplace;
- Identify and mitigate key environmental risks, including eliminating spills and environmental incidents;
- Promote a healthy workplace and mitigate significant health risks;
- Operate incident free with industry-leading asset reliability;
- Maximise the efficient use of resources and assets.

Safety is a shared value at ChevronTexaco. We want people to go home safely every day. To deliver and sustain high levels of performance, we must engage employees throughout the organisation to develop a culture where everyone believes that all accidents are preventable and that the reality of 'zero incidents' is a real possibility.

We can also significantly improve reliability and efficiency by avoiding unplanned events, reducing disruptions from external events, and more effectively scheduling and optimising planned downtime. This requires an understanding of critical systems and processes, and the people involved in them, to identify recurring problems, their root causes and corrective measures.

The role and structure of networks

Networks are a critical component for connecting our people, processes and culture to achieve OE objectives. ChevronTexaco sponsors a number of global networks in areas such as health and safety, exploration and production, refining, and information technology. These networks have proliferated significantly since our recent merger as we explore ways to integrate our varied cultures, businesses and work processes into a new, seamless organisation of 53,000 employees operating in 180 countries.

We have identified three types of networks in the company. The most common type is the community of practice. It connects people with similar skills or work

responsibilities. Each network/community typically has a leader and voluntary membership. They differ in accountability, sponsorship and funding, and in the ways members interact (from annual forums to collaborative websites, document libraries to regular teleconferences). These networks help members locate and consult with experts, find solutions to common problems, share and adopt successful practices and lessons learnt, and suggest improvements to current tools and processes in their domain. Our directory currently lists over 100 such communities.

Groups that focus on critical competencies and core processes may use a more formal or 'strategic' network structure. These networks have formal charters and annual operating plans, business unit (BU) sponsors, selected leaders and core-team members, with performance agreements, network funding, clear deliverables and metrics. Regular teleconferences, workshops and moderated collaborative websites are also part of the network operations. We have assembled an online toolkit that guides a group in the design, launch and sustain phases of the network lifecycle. The toolkit contains example documents and processes contributed by existing networks. We also provide networks with facilitators, who work with new communities to accelerate the design and launch phases. For example, I personally helped the OE networks get started. Nobody on the corresponding project team knew much about a network, so the facilitation helped them to get their feet on the ground very quickly. The upstream and downstream networks have all used facilitators in the same way. There are currently over 30 of these networks either already launched or in design.

A third type of network is an organisational unit that provides expertise in a specific domain to the corporation – effectively internal consultants. We class these associations as networks because members fulfil the typical roles of a network core team. Interestingly, a growing number of our global BUs are using the toolkit to organise as virtual teams with distributed responsibilities and work processes.

Networks have been developing for some time within the organisation. Like many companies, we have had informal networks in place for a while, usually made up of technical specialists who meet to help each other solve problems or discuss new ideas. In the early 1990s, we formed some of the first strategic networks for refining good practices. They were created in much the same way as the OE networks outlined above. In the mid-90s we launched a number of informal communities of practice based around technical specialties. But after a few years of operation we saw that we weren't achieving all the value we expected. Today's OE-network model contains some of the key value-driving success factors and we use what is appropriate from the toolkit as we design and launch new networks.

Each type of network has its own level of resources in terms of senior-management support, corporate funding and people.

For the strategic OE networks, senior-management support was the critical first step. The need for the networks was identified by managers at this level and they have continued to champion them. Since these networks were perceived as critical and had specific deliverables, they obtained corporate funding. This is largely allocated to time spent by the moderator (a 25-50 per cent commitment during the initial network phases), core-team experts, whose time is billable, and to a lesser extent a knowledge-management facilitator. Network members were selected by their local managers and

are expected to make participation a part of their job, so no extra funding was budgeted. Our less formal communities also typically receive funding for a moderator, teleconferences and a website. Many of the newer communities have had charters approved by management, but active management engagement is less visible.

Inside an Operational Excellence (OE) network

As part of ChevronTexaco's focus on safety, we have created five strategic networks:

Motor Vehicle Safety (MVS); Contractor Safety Management (CSM); Repetitive Stress Injury Prevention (RSIP); Reliability Improvement (RI) OE Champions

These networks started as traditional project teams chartered to develop guidelines to establish a consistent approach to addressing risks and opportunities common to all ChevronTexaco organisations. However, project-team involvement typically decreases as a project enters its deployment phase. Our Health, Environment and Safety (HES) Steering Council realised that there was a continuing need for a group to speed implementation and continually improve the recommendations and tools of project teams. We therefore transformed the project teams into networks, expanded them to incorporate members from a range of business units and chartered them to:

- Provide rapid connections between people with questions and those with the appropriate knowledge and expertise;
- Enable and accelerate effective, efficient and timely sharing and adoption of value-adding practices, lessons learnt and new technologies;
- Provide a link to internal and external information sources such as databases, previous studies and benchmarking data;
- Enhance the retention of knowledge within ChevronTexaco.

Mid-level management support and sponsorship are critical to a network's success. These managers work with subject-matter experts to develop the business case, nominate a sponsor, help select a leader and core-team members, collaborate with the network leaders on the charter and operating plan, review progress periodically and engage peer management to make sure the right people are active network members.

Each network also has a senior-executive sponsor who helps establish the vision, strategic goals and expected value for the business, assists with acquiring resources and funding, and looks for ways to gain visibility for, and promote the value of, the network. Each network's charter and annual operating plan contains the following elements:

- Purpose, scope and business case;
- Network goals and deliverables;
- Roles, responsibilities and expected time commitment;
- Network membership and typical member profile;
- Governance;
- Budget;

- Metrics (process, behaviour and results measures);
- Schedule of activities (monthly teleconferences, workshops, progress reviews).

For example, the Contractor Safety Management (CSM) network has short-term goals focusing on communication and implementation support:

- Share successful practices, lessons learnt and challenges faced;
- Educate business units about CSM team deliverables;
- Assist BUs with deployment plans (implementation, logistics);
- Develop fluency in operating the network;
- Provide network access to external contractors.

To sustain world-class performance in contractor safety, the network has longer-term goals focusing on understanding gaps and problems as well as improving practices:

- Maintain and develop standards over time. Proactively identify gaps in the system and develop new practices;
- Develop leading indicators that are predictive of success;
- Identify what is not working for business units and contractors, and improve implementation effectiveness;
- Identify, validate, transfer and apply new ideas, innovations and technologies.

Network metrics

The OE network's main objective is to help business units close performance gaps and meet corporate expectations. Metrics that serve as leading indicators of corporate-safety performance will help the networks adjust their focus or guide members on practical intervention methods. Since explicit results will take time to materialise, we also have measures for process and behaviour.

Results

- List of estimated benefits (members describe benefits gained as a result of implementation of a programme, use of a tool or the development of a new practice);
- Pilot project reports (engagements with BUs to create an implementation plan);
- Top-three shared ideas or improvements each quarter.

Process

- Percentage of BUs using the network's tools and guidelines;
- Number of pilot programmes;
- Number of discussions between network members and BU leadership;
- Survey of perceived value of networks by members and stakeholders.

Behaviour

Participation statistics (number of members, conference calls and so on); Website usage statistics (items shared, documents read, questions asked and answered). Monthly teleconferences are an important part of the network's practice. A typical two- hour agenda covers such issues as corporate-safety performance and network-metrics reviews, news of serious incidents and actions taken as a result, instances of successful practice sharing, as well as time for open dialogue and questions and answers.

The core team meets prior to the general membership teleconference to plan the agenda and solicit contributions. The team also conducts periodical one-on-one interviews of members to better understand their issues and interests, as well as to collect information on the use of recommended guidelines and tools. Each network is supported by a collaborative website, which is open to all employees and is used to publish successful practices, discuss issues, ask and answer questions, post meeting agendas, track actions, and retain guidance, tools and other subject-matter specific documentation.

Success stories

Upstream Networks

'Seek, share and adopt' is the mantra of the Technology Rapid Execution (TREx) networks, which help ChevronTexaco's exploration and production (upstream) business units develop effective technology-investment strategies and solve day-to-day operating problems. Capital and operating costs for the front end of our value chain are tremendous. This provides a large incentive for technical and operations staff to connect and transfer knowledge on cost-saving and performance-improving technology innovations.

TREx has two interrelated components: platforms and networks. A platform consists of a small group of people responsible for crude-producing assets that have common technical and operational challenges. Example platforms include heavy-oil assets, shallow-water assets and exploration. Each platform has a technology-management team made up of people from operating BUs and the organisation's technology company, who meet regularly to identify and prioritise common challenges. This team is guided by a decision-review board, which endorses technology strategies and approves resources for technical projects.

Across upstream, 23 technical networks are being created. They are divided into four subgroups: sub-surface characterisation, reservoir management, drilling and completions, and facilities and operations. Once an opportunity is identified, network members are able to efficiently seek input, share experiences and adopt proven practices. Global communication is facilitated by web-based tools, contact lists and occasional in-person workshops.

One example in particular illustrates the value of the rapid communication enabled by the networks. One of our BUs received an incident report from a partner operating an

oil field. While completing a well, a service contractor was preparing a perforating gun, which is used to shoot holes in the well casing to allow for gas production. An electrical problem caused the gun to fire prematurely, resulting in significant damage to the well. Immediately, three people in the BU entered the report into both the Drilling and Completions and the Formation Evaluation e-mail networks. Two well-logging specialists received the note.

Aware that the same type of job was planned at another location, they contacted an employee at that unit, who stopped the perforating operation and postponed the work until his team could address the issues that had arisen. In just four days, the report had been filed, noted and actioned, potentially saving the company some $30 million.

Global Refining Networks

'Quality answers in minutes, not days' is one mantra of Global Refining Knowledge Management (GRKM). Prior to our merger, Chevron had created a number of good-practice teams that recommended process equipment, process-operatingimprovements and shared subject-matter expertise for our US-based refineries. With the additional sites outside the US, the merger more than doubled the number of refineries in our system. As well as expanding the good-practice teams, we realised that the new refineries were not familiar with, and had difficulty reaching, our technical experts.

The refining leadership team championed the development of a global network to connect technical experts, refinery engineers and operators, to enable them to search for answers or ask questions concerning day-to-day operating problems, to share successful practices and to find a wide variety of refining knowledge in a single location. To ensure quick response to urgent questions, the web-based portal features an email-enabled process that directs questions to a subset of over 900 members who have registered their willingness to provide answers in a few of over 200 subject categories. Usually, a question receives four or five responses within 24 hours. But if no answer is submitted, the question is escalated to technical experts who are responsible for the subject area.

A typical example illustrating cost and time savings involved a recent weather-induced problem in one of our processing units. A lightning strike caused problems with instrumentation, leading to a higher feed input and resulting in sooting of the catalyst bed. The unit's engineer looked for suggestions to remove the soot and reduce the resulting pressure drop by posting a question on GRKM. By the time he got to work the next day, he had received four replies, from an operations superintendent, a process engineer, a process advisor and a process technical expert, each in a different location. Based on their feedback, he developed a workable plan to correct the problem and re-use the catalyst, saving $100,000 and at least a day of research time.

Another example illustrates the potential value of proactive sharing of successful practices. A catalytic process unit was experiencing fouling of a wet-gas compressor. The process team tried an online water-washing procedure that hadn't been used before. The procedure successfully removed the fouling and avoided a costly shutdown. The team estimated the potential savings from re-use at $500,000 and over 80 hours of labour. The unit's engineer commented, "I especially like the global aspect of GRKM. I'm very used to sharing information with the US refineries, but this really has opened the door to contacts around the world."

In the past few months we have documented many similar examples that have contributed to operational excellence with multi-million dollar cost savings and avoidance of incidents and lost production.

Ongoing challenges

Although many of these networks are new, they are already making significant contributions to operational excellence. We still see gaps in the level of participation and accountability of members, as well as in the level of support from, and in the engagement of, business units. As such, there are a number of challenges we are still looking to address.

Documenting and communicating network successes is an ongoing issue. Many of the networks already have metrics that include reporting successes involving knowledge transfer. We will continue to court managerial sponsorship, in the hope of securing opportunities to tell those stories at management and employee meetings. We will also become more active in publishing the stories on our corporate intranet. Success in this area will also help in encouraging and reinforcing members to use network connections as a part of their normal work process.

A further challenge lies in improving the skills of our network leaders. Two specific objectives have been set for 2004. One is the network of network leaders. The second is to identify a practical curriculum in running virtual teams or networks.

Similarly, educating senior management on the importance of networks for short-term (improving operational excellence) as well as long-term (retention and knowledge-transfer to new employees as senior staff members retire) benefits remains a continuing task. The OE-network value proposition is well understood by senior-management sponsors, and they have been given responsibility to communicate these successes throughout affected parts of the business to encourage more active participation.

As for the future, our network model is clear. As more of the company's managers understand the value they provide, networks can only proliferate. Indeed, this is already happening today. Networks will no doubt become an even more valuable tool for dealing with knowledge retention and transfer, eventually extending beyond the company itself. The potential contribution they will make to ChevronTexaco as a whole is truly enormous.

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