

Oil & Gas Practice



Organizing to enable the shift from volume to value

December 19, 2014

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Introduction

Oil and gas companies are facing pressure on returns, driven by both margin and capital intensity effects and intensified by the recent sharp fall in oil price. Even as average crude oil prices remained largely flat between 2008 and 2013, McKinsey research shows average return on invested capital among international oil companies (IOCs) declined from 27 percent to 11 percent in the period driven by escalating costs linked to underlying “evergreen” organizational issues. These include unclear accountability and redundancy arising from complex matrix structures, unwieldy standards and processes that hinder performance on the line, and increasing employee costs.

In response, both majors and independents have begun shifting their capital market proposition away from the traditional emphasis on volume growth to focus more intently on creating value through opex and capex optimization.

That “volume-to-value” push has emerged as a central theme across the industry. Chevron echoed it in analyst discussions when they stated they are “value-driven, not volume-driven.”¹ BP made “Value over Volume” the first element of their 2014 proposition to shareholders.² BG’s strategy promises to “Prioritize value over production,”³ and ConocoPhillips talks of a “shifting portfolio driving peer-leading cash margin growth.”⁴

Delivering on that value promise, however, requires companies to improve performance across the business and adapt deeply embedded cultural norms. Based on McKinsey research and dialog with several hundred executives over the last year, this article explores the *organizational implications* that oil and gas players need to consider to improve growth and performance and shift from volume to value. They include how to tune organization structure, simplify processes and ways of working and address “people” challenges in addition to culture shifts and leadership required to successfully implement these changes. Combining an integrated program of organizational initiatives with stringent capital and portfolio management will enable companies to shift their focus from volume to value and, ultimately, transform their performance.

Get your matrix to work

Many companies ask whether they should adopt an “asset” or “functional” model, but this is the wrong question; rather the key is finding the right balance between the two. Most oil and gas companies have evolved their organizational design and operating model over the past five years, with a clear convergence on a matrix structure, that is, asset organizations with a strong functional dimension (Exhibit 1). This convergence is a response to common demographic, competency, technology, and regulatory pressures across the industry and reflects the many potential benefits of a matrix structure. However, poor implementation of a matrix is a key contributor to cost escalation and inefficiency. Increased complexity, poorly defined roles and accountabilities, unclear reporting lines, and duplication of activity are major factors in value erosion.⁵

1 “2012 Security Analyst Meeting: Financial Performance & Priorities,” Chevron Corp.

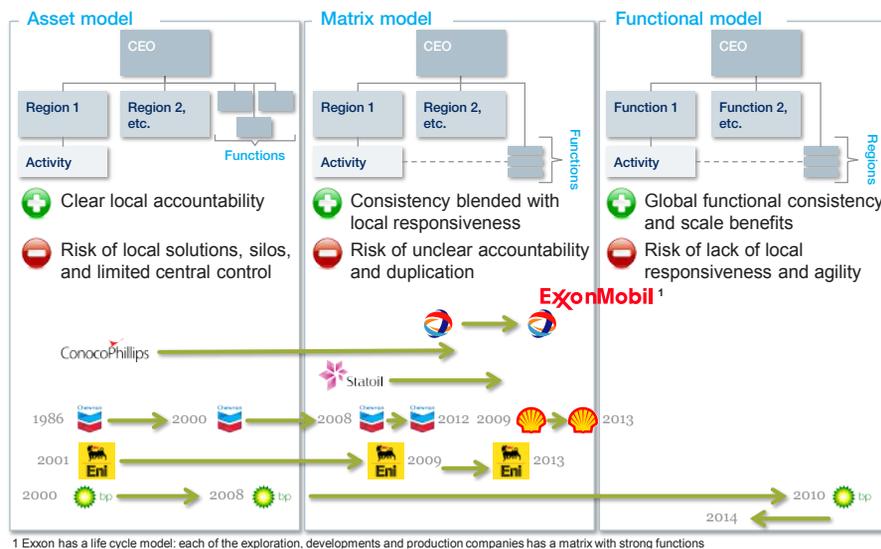
2 “March 2014 Investor Update,” BP plc

3 “Exploration & LNG Update 2013,” BG Group

4 “2014 Analyst Meeting,” ConocoPhillips

5 Suzanne Heywood, Rubén Hillar, David Turnbull, How do I manage the complexity in my organization?, McKinsey Insights into Organization, 2010

EXHIBIT 1



To arrest that slide, oil and gas companies need to refine their matrix organizations in the following ways:

1. Clarify the role of your functions and eliminate duplication

Failure to clearly define the role of technical functions quickly leads to “mission creep” and uncontrolled growth in central teams that disempowers and burdens asset organizations. Too often roles muddled. A given function might be involved in setting standards and policing while at the same time contracting to provide services. Such “split personalities” cause confusion and inefficiency in the line. A framework such as that shown in Exhibit 2 can help bring much-needed clarity.

EXHIBIT 2

Potential roles of a central function

| | |
|-----------------------------|--|
| Set policy, standard | <ul style="list-style-type: none"> Set group or functional requirements and standards |
| Determine process | <ul style="list-style-type: none"> Design common functional process to embed best practice and/or ensure commonality of approach Own operating management system |
| Monitor, review, and assure | <ul style="list-style-type: none"> Monitor and evaluate the efficiency, effectiveness, and risk of delivery |
| Challenge, coach, advice | <ul style="list-style-type: none"> Provide real challenge on both performance and decisions made Act as coach to those accountable for delivery |
| Support, enable | <ul style="list-style-type: none"> Provide input or resources as required, e.g., SMEs, major project managers Provide data and insight to inform decision making |
| Contract | <ul style="list-style-type: none"> Agree with assets to complete specific tasks as requested, subject to a performance contract |
| Execute | <ul style="list-style-type: none"> Centrally perform all activity of a given type, e.g., exploration, project front end, business development |

Once roles have been defined, companies should eradicate duplicate horizontal activity across functions and asset teams. One company did this by combining their internal, corporate, and rig audit functions into a single internal audit team. This reduced cost and facilitated greater coordination of audit activity hitting the line.

Eliminating vertical duplication means ensuring that only one level in the organization has accountability for each functional activity. This can be challenging to identify, but brings similar benefits when tackled. One company halved headcount in central technical teams by focusing the team’s role exclusively on setting and enforcing standards and processes and removing tasks, such as central contract support, that duplicated work done by other functions.

2. Be explicit around accountability and the decision-making process

The shift from volume to value elevates the need for clarity on how and when decisions are made. The most serious issues and greatest performance improvement opportunities are at the interfaces of the matrix organization. Managing supply chain costs, delivering projects on schedule and improving operational performance all require assets and functions to work closely together to gain stakeholder involvement and make cross-functional cooperation systematic.

Accountability mapping frameworks, such as the RASCI model (an acronym for Responsible, Accountable, Supportive, Consulted, and Informed), are useful tools to codify the decision-making process, clarify who has responsibility for what, and chart what is needed from key stakeholders (Exhibit 3).

As an example, delivering a major project typically requires a local asset to work together with a central project team, with input from many other internal functions and external stakeholders, all of whom have a role to play in the success of the project. This

EXHIBIT 3
Center/asset split in asset development

| RM activities | Center | | | BU |
|---------------------------------------|------------|----------------------|----------|-----|
| | Asset dev. | Center of excellence | Planning | |
| Create BU Business and Strategic Plan | S | S | A/R | S |
| Create BU Technology Plan | C | A/R | | S |
| Characterize Reservoir | A | R | | S |
| Create Opportunity Catalogue | A/R | S | | S |
| Plan Management of Uncertainties | A | R | | S |
| Create Asset Development Plan | A/R | S | | S |
| Analyze Lessons Learned | A/R | S | A/R | A/R |
| Report Corporate Reserves | A/R | S | S | S |
| Project - Appraise and Select | A | R | | C |
| Project – Define and Execute | S | S | | A/R |
| Project - Operate | | S | | A/R |

Responsible
Accountable
Supportive
Consulted

coordination will be even more important in the current low oil price environment. The most successful companies go to great lengths to clarify which part of the organization is ultimately accountable for delivery and how and when other functions must be involved to build alignment. We have also seen examples of dysfunction: an oil company ran a billion dollar mega project where even those closely involved were unable to explain whether the asset or central project organization was ultimately accountable, nor clear on how they should work together. This led to substantial cost and schedule overruns that were only arrested when the asset manager took personal control of the situation.

3. Make sure reporting relationships are clear

Matrix organizations can create a proliferation of secondary or “dotted” reporting lines. While these can be an effective linkage mechanism, they often add complexity and inefficiency. We encourage clients to consider alternative coordinating mechanisms, such as formalized interactions, project teams, communities of practice, or informal networks.

Where dual reporting lines are used, however, the supervisory roles must be clarified across dimensions, for example career and performance management, work scope, and compliance. The primary and secondary authority should be identified against each of these dimensions, ensuring that the “dotted” line supervisor has a meaningful role on at least two dimensions. To that end, more companies are placing “primary” reporting within the function. One oil and gas company, for instance, is shifting to solid line reporting structures in all its support functions to better control resources and thus cost.

4. Implement effective performance measures

Performance measures should build a “customer orientation” among the functions towards the assets. That is, targets and associated performance improvement initiatives must be developed in collaboration with the assets. One best practice is to put formalized service level agreements (SLAs) in place between the functions and the assets to set expectations around performance and delivery on both sides.

Simplify ways of working

Growth, globalization, adoption of advanced technology, and an increased focus on safety and regulations have increased management complexity. The current oil price environment has added urgency around the need for simplification. Streamlining management systems can deliver four significant benefits:

1. Strategic benefits from continuous learning, more effective corporate safeguarding and risk management, and greater market responsiveness.
2. Improved frontline effectiveness by freeing up capacity to spend time on high value-add activities
3. Improved frontline productivity by clarifying and simplifying standards
4. FTE reduction through better, more efficient system management

McKinsey data shows that the last three steps alone can deliver 5 to 15 percent in increased value (defined as a proportion of labor costs), while the first step sets the stage to provide the most lasting value and performance.

To achieve those results, companies need to address three areas to improve their management system and ways of working.

1. “Clean up” standards and processes

Oil and gas companies rarely lack manuals containing standards, procedures, and guidance but too often these are not “fit for purpose” and go ignored by the front line. Reviewing the efficacy of existing standards, processes, and systems is a critical first step to remove workflow bottlenecks, better manage risk, and reduce costs.

Using “scrum” techniques taken from the software development world, McKinsey helped one client rewrite their drilling standards to make them fit for purpose for onshore wells. Scrum is effective because it uses dedicated, cross-functional teams that include the ultimate end user and rapid iteration cycles to create publishable content. In this case, the company completed a comprehensive rewrite of 15 drilling standards within eight weeks. The revised standards contributed to a 30 percent reduction in average drilling costs per well.

At another client, McKinsey took a risk-based approach. Teams identified a series of process improvements that would better mitigate risks and rewrote the processes accordingly. Those changes reduced risk and generated significant time savings.

2. Simplify the “system architecture”

Companies should simplify their management systems and governance. Many have multiple layers of standards without clearly distinguishing what is required and what is best-practice guidance. Governance models must also be refined to give the line greater ownership and provide the right incentives to encourage alignment with business and safety goals. This typically involves moving governance for active adoption and improvement to the line, while maintaining corporate monitoring and control over key risk and safeguarding elements.

3. Drive implementation through the assets

The approach used to implement major operational performance improvements needs to be programmatic, employing comprehensive, holistic, proven methodologies and tools, and well-trained “change leaders.” For example, when one company rolled out a set of new standards and technical procedures across its global workforce, the project management team used a centralized change management process to oversee multiple workstreams. That gave leadership assurance that the effort would be managed to a high degree of conformance to standards and plans, while increasing the visibility and support that assets received.

It is important to prioritize new standards and change efforts, develop additional standards where needed, and assess the usability and business consequences of those standards. It is also essential to plan and implement any changes through a predefined line-owned model, and assess conformance.

Pilots, wave-based rollouts, and “big bang” transformations can all be effective ways to implement. Which approach a company takes depends on individual needs and strategy.

Improve workforce capability and flexibility

A number of factors have contributed to the industry's long-standing talent shortage. They include "the great crew shift" as experienced workforce members retire as well as increased competition for talent within and outside the industry. In addition, an increasing number of projects call for specialized capabilities that many companies lack and a greater focus on safety and compliance has increased the level of experience required of frontline personnel. The shift from volume to value is, in part, motivated by the effects of these trends as they feed through to increased labor costs. However, the shift also exacerbates talent challenges as companies must make their workforce ever more flexible in response to proactive portfolio management and rapid deceleration of capital expenditure.

To deliver value, oil and gas companies should do the following.

1. Create a strategic workforce plan

Strategic workforce plans are best created top-down, driven off activity forecasts within business and strategic plans. Internal or industry benchmarks, such as McKinsey's Upstream Workforce benchmark, can then be used to predict manpower needs by discipline.

Forecasts should be combined with a granular view of available supply and demand across relevant basins and should address both near- and longer-term resource requirements. For example, McKinsey has developed a Global Exploration and Production (E&P) workforce model that can help identify surpluses and deficits of technical talent to 2020 across countries. Taking the North Sea as an example, a forecast shortage in Norway, for example, could be offset by excess supply in the UK across most disciplines. Companies with the dexterity to adjust their operating models to leverage talent surpluses will have the upper hand.

Many oil and gas companies are also getting more creative in targeting nontraditional talent pools, including engineers from adjacent disciplines, retirees, military veterans, or teachers and government officials, and sourcing graduates from emerging markets, such as India and China. Intensive training programs are also becoming more common. In Nigeria, for instance, it is common for international oil companies to recruit high school students into immersive "in-house" development programs.

Finally, recruitment and retention drives must be complemented by a thoughtful and compelling employee value proposition (EVP). Companies need a realistic assessment of where they stand relative to peers on compensation, professional development, company attractiveness, and lifestyle and working conditions.

2. Use talent more effectively

There is tremendous opportunity for oil and gas companies to make better use of their existing technical talent. Aligning high-value skills against high-value tasks, rather than tying up those professionals with lower-value or administrative matters, is one way to improve efficiency. Companies that successfully redesign technical roles can improve productivity by 20 to 30 percent. At one company, for instance, geologists in the central team were spending 40 percent of their time supporting a new IT rollout instead of

offloading (or outsourcing) such noncore activities to administrative or support staff. Better skill utilization also improves employee motivation.

To improve talent deployment, many large oil and gas companies have evolved towards a “managed market” model, in which placements are posted but individual moves are managed by a coordinator within each skill pool or job family. One company has taken this approach further and begun including a mobility clause into its new-hire contracts. We are also seeing an increasing trend towards global functional ownership of talent. This enhances prioritization of needs across the portfolio and provides greater visibility around availability of talent. One company we know achieved a 10 percent increase in resource availability by empowering their central projects team to implement just-in-time staffing, redeploying higher capability employees to more complex projects, and rapidly redeploying staff during project delays.

3. Identify where greater capabilities will add value and measure impact

It is easy to spend a lot of money on capability development with uncertain impact. One oil company spends well over USD 1 billion each year on capability development for its staff, a sum larger than the teaching budget of most universities. To improve the return on that spend, it is important to focus on developing the most-needed capabilities, such as project management, contracting and well control. Companies also need to ensure learning spend is well used. A recent global survey by McKinsey across industries shows only 10 percent of executives believe institutional capability building is “very well” linked to business performance goals in their companies and one fifth indicate that they do not even measure the impact of learning programs on business performance.⁶

The best companies run a systematic process of needs analysis, focusing on a set of pivotal roles across technical functions. They identify what individuals must do to deliver business objectives on a role-by-role basis, chart which capabilities are required to complete these tasks, and flag current gaps. One company applied this approach to refine career development paths and learning curricula to help all staff meet minimum competency requirements. They paired this with special interventions for individuals entering roles with exceptional value or risk.

Adults learn best through experience and practice rather than sitting in a classroom. Oil and gas companies have been relatively slow to put this into practice, although we have seen some innovative examples. Many companies, for instance, are deploying drilling simulators to train their well site teams and some have even constructed a pressurized well for training. Virtual classrooms, which are cheaper and less disruptive on schedules, are also increasingly being used. Structured technical coaching, role rotations and secondments, and greater use of mobile technology are other leading practices.

Measurement is critical to monitor whether learning is contributing to value. Most companies collect statistics on efficiency, such as training hours per employee or learning spend per employee which, while important, fail to demonstrate whether this spend is making a difference. We believe a rigorous assessment of need upfront helps companies demonstrate improved employee performance over time and, therefore, the business benefit of learning spend.

⁶ McKinsey Capability Building survey 2014

Reinforce through culture and leadership

For improvements to stick, they must be supported by a sustained commitment to cultural change. McKinsey’s Transformational Change survey finds that around 70 percent of change efforts fail. Unsupportive management behavior and employee resistance are often the lead factors.⁷

Shifting the mindset of several thousands of upstream engineers to focus on cost and value *in addition* to safety, quality, and functionality is a challenging task. This is also often the area where oil and gas executives have the least experience and know-how. But McKinsey’s client work shows culture can be shaped through a structured and systematic approach.

1. Define “as is” and “to be” mindsets

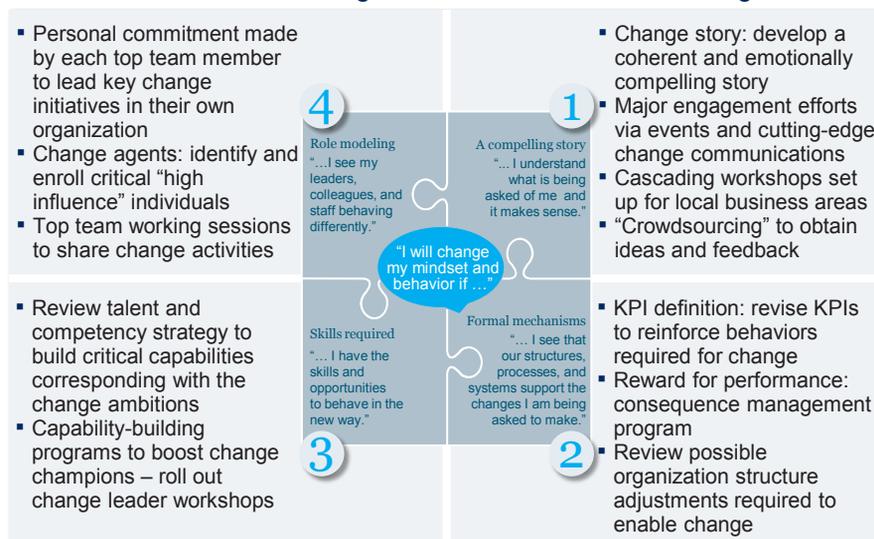
Companies need to know the baseline and the desired end state. Focus groups and surveys such as the Organizational Health Index (OHI)⁸ can help identify a short list of three to five cultural change priorities as well as root cause issues and “blockers.” For example, many oil and gas engineers believe that technical optimization is more important than cost, resulting in gold plating.

2. Define a set of targeted interventions

To address the required shifts, McKinsey uses an “influence model” that involves four key elements (Exhibit 4).

EXHIBIT 4

Define interventions for each targeted mindset and behaviour change



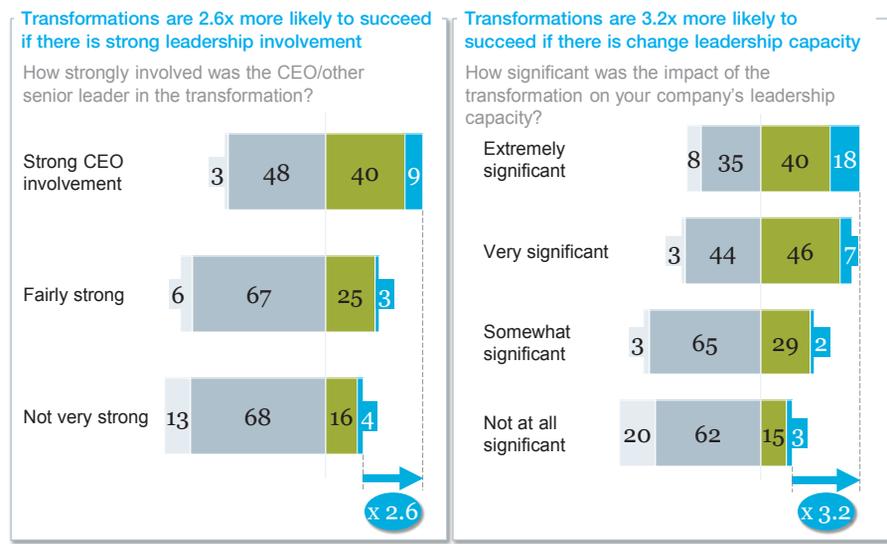
7 Scott Keller and Colin Price, *Beyond Performance: How Great Organizations Build Ultimate Competitive Advantage*, 2011

8 For further information see: <http://mckinseysolutions.com/solutions/organizational-health-index>

- **Foster buy-in from the top.** Developing and communicating a “change story” is core to motivating change. Such communication must start at the top and cascade down through the organization. One client spent two full days offsite with the executive team where they jointly crafted the change story.
- **Develop formal reinforcement mechanisms.** Performance management and processes must be aligned with desired outcomes. For instance, one O&G company developed a new core leadership model that explicitly emphasized accountability and continuous improvement, backed by a refined set of KPIs focused on raising cost performance and efficiency.
- **Cultivate change management skills.** Elevating organizational excellence requires expertise in managing complex change efforts. There are many ways to groom these skills. For example, one client ran a series of “change leader” trainings, one- to two-day events focused on improving leadership capability around change management (Exhibit 5).
- **Build change leaders at scale.** Experiential “just-in-time” training is key. One company placed change leaders in every operational business unit with responsibility to spur change locally and drive continuous improvement.

EXHIBIT 5

Leadership capability and capacity – key drivers of transformational success



Conclusion

Effectively managing the shift from volume to value requires streamlining the matrix organization, simplifying processes, improving talent management, and strengthening the corporate culture. Leaders that execute on value will be much better able to adapt to the complexities of the present operating environment and be more strongly positioned to deliver sustainable growth and profitability over the long term.

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