

Breaking the Mould: Unlocking the benefits of a tailored upstream operating model



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Most large oil companies have a matrix organisation with strong centralised functions. However, some businesses like un conventionals, late life assets and oil sands require tailored and decentralised operating models. This need has been exacerbated by the challenges of low oil prices, which are now forcing a rethink.

Over the last decade, large oil companies seemed to have reached a consensus on how to organise for success. There is clear convergence on a matrix structure that combines asset organizations with input from strong central functions. Global exploration, projects, wells and procurement functions aim to reap the benefits of their scale by applying a similar approach — or operating model — across basins. The minutiae differ between companies, but the aspiration is the same: a single, consistent way of working.

In many areas, this move has created value. This is particularly true in deep water and LNG where success is driven by the delivery and subsequent operation of an extremely expensive project. The use of standardised approaches across geographies supports performance and allows for lessons to be shared more effectively across the organisation.

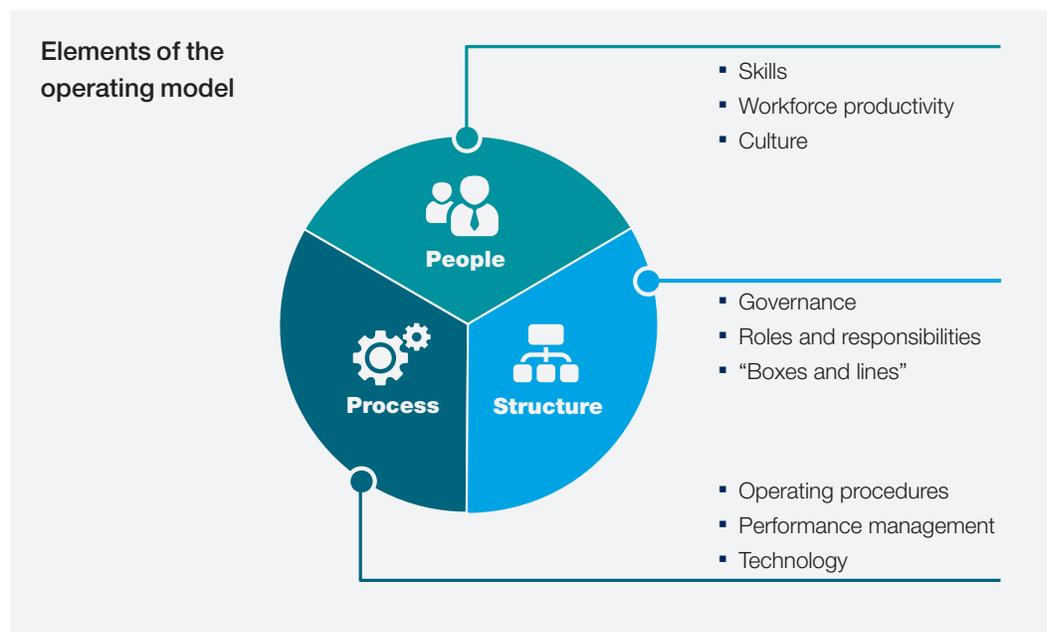
However, this single, standardised model has not proved successful across all plays. The circumstances around three important types in particular — un conventionals, late life assets and oil sands — call for a different operating model with more customized, local solutions. Global functions still have plenty to offer, but success here requires companies to break the mould and tailor their operating models to the specific circumstances that affect each play. In brief:

- **Unconventionals** represent a material share of many companies' current production and growth plans — indeed production from un conventionals across Exxon, Shell, Chevron BP, Total and Eni is currently equivalent to about 2.3 million barrels a day, roughly the same scale as all of Total's production globally. Success in un conventionals requires a nimble operating model to make many smaller dollar figure decisions: rapid decisions taken close to the work front, continual cost and efficiency improvements driven through factory-style drilling campaigns and local relationships;

- **Late Life Assets** have become increasingly uneconomical as oil prices have fallen, yet the cost of maintaining ageing facilities and infrastructure continues to rise. Success requires an ultra-lean operating model that restores these assets to profitability and greater accountability, by putting an individual on the hook for commercial delivery. A successful operating model must unleash the asset team to find innovative ways to maximise production and reduce costs;
- **Oil sands** have experienced widespread deferrals and cancellations of major expansion projects due to the fall in crude price. At the same time, they are also dealing with a large installed asset base that didn't exist 10 years ago. Together, these trends have altered the drivers of value and require operators to fundamentally reassess and tailor their operating models.

Tailoring the operating model

Oil and gas companies can significantly improve the performance of their unconventional, late life and oil sands assets by aligning their operating model — people, process and structure — against sources of value. (Exhibit).



Large oil companies have experimented successfully with tailored operating models for some time. In the 1990s, for example, during another period of low oil prices, BP placed a number of mature North Sea fields into a semi-autonomous business unit called the Mature Asset Team (MAST) with the aim of extending production life and maintaining high health, safety and environmental standards. At the time, these fields accounted for just four percent of BP’s UK Continental Shelf production, but consumed 17 percent of all operating resources¹. Under MAST’s new operating structure, a management team with business turnaround experience was put in place, specific cost targets established and incentive compensation packages were tightly aligned with performance. Over the course of four years, MAST generated \$100M in value by improving efficiency, simplifying business processes, reducing headcount, and introducing multi-skilling. Safety performance rose to the top quartile; total operating cost declined by 70 percent, and onshore support headcount went from 75 people to 20.

The MAST example illustrates how specific, targeted changes in the people, process and structural elements of an operating model can have a transformative impact.

¹ Productivity and Profitability in Mature North Sea Fields, SPE European Formation Damage Conference, 15-16 May, The Hague, Netherlands, John S. Leggate | John B. Gregory | Simon C. Bennett, <https://www.onepetro.org/conference-paper/SPE-30233-MS>

Looking at the specific dynamics of the unconventional, late life assets, and oil sands businesses, we believe a number of specific operating model changes can help companies extract greater value, efficiency and growth.

Unconventionals

For unconventional, value is created by companies that organise themselves to make rapid decisions, and to drive continuous cost and performance improvements through factory-style drilling. Leading operators in many basins tend to be local independents that secure attractive positions early in the basin lifecycle, then drill out the acreage and prove up the potential in a cost efficient manner. These operators tend to make decisions quickly as the context around them changes.

The North American unconventional wave, for example, has evolved based largely on acreage position accumulation. The resource base is so large that companies can achieve scale and sustain organic growth while competing in only a single basin, for example, Whiting in Bakken, EQT in Marcellus, Concho in Permian. The idea of the winning basin engine defines how competition works in the industry, and it informs operating models.

Majors seeking to incorporate some of the most attractive elements of the independents' operating model need to make changes across the three dimensions: structure, process, and people.

On structure, companies need to move to a more asset-centric structure, with P&L accountability delegated to local asset managers — a simple shift, but one necessary to make at the outset. This creates a framework for localised decision-making and puts accountability for business delivery squarely on the shoulders of individual asset managers. Organizations are explicitly or implicitly built around assets. Functional excellence for its own sake has little value. Tellingly, most of the large multi-basin players, such as EOG, XTO, and Devon organise explicitly around geographic areas.

Process changes are also required. These include adopting industry standards in place of highly prescriptive standards set by central functions. Managers close to the workforce must be allowed to collaborate with suppliers to procure solutions that are best suited to the local context. Workflows also require simplification: complex and time-consuming processes and approvals appropriate to big-ticket decisions in deepwater and LNG should be replaced by fewer steps with fewer individuals involved. This again empowers asset managers, requiring them to make decisions that are most appropriate for the local context and reducing the number of interfaces required to come to a decision. In many instances, it is possible to remove nearly half the individuals involved in key processes like new well delivery — significantly accelerating work while simultaneously reducing cost.

Executing drilling and completions (D&C) efficiently and at scale is especially important. Regardless of how the organization chart is drawn, the best companies achieve very tight integration across land, subsurface, construction, drilling, completions, and production. The art is to keep the factory running while concurrently optimizing well performance as new information comes in and adjusting quickly to unforeseen complications in land and permitting.

At the same time, a stronger performance management system is needed to ensure asset managers are held accountable for delivery. A short, targeted set of the most important performance indicators should be established — no more than 8-10 — and coupled with regular and robust performance dialogues. Leading independents reward strong performance with powerful financial rewards and punish under-delivery with termination. Other companies may wish to incorporate these types of incentives into their performance management model.

Finally, organizations need to build a culture that encourages an entrepreneurial ‘do-learn-do’ approach to drilling. This resembles a factory process, with continuous improvement allowing companies to bring down costs and increase cycle times progressively as they gain an understanding of the basin’s characteristics. The tendency to over-invest in front-end design and engineering must shift to one that embraces experimentation.

Staff composition models may also need to shift from the typical rotation of talent across business units to one that focuses on recruiting and training the best local basin specialists. Success in unconventional requires detailed knowledge of the basin’s characteristics built on a career’s exposure. The secret sauce of D&C optimization varies considerably by basin. Well depths, lateral lengths, bench landings, and completion designs all vary. Multi-basin companies compete by developing and sustaining a critical mass of technical expertise in each basin and are loathe to give up those resources just for the sake of moving people.

Late-life assets

Late life assets in mature basins like the North Sea present some of the most challenging conditions for success in the current oil price environment. They are usually very low margin assets facing structural challenges. These include highly depleted reservoirs with few attractive infield opportunities together with old production facilities that frequently suffer from poor integrity and reliability, compounded by a history of inadequate maintenance.

Success in this environment requires an ability to operate safely at very low cost. The best operators maintain a laser focus on the potential of individual assets. They understand what it takes to run each asset and they ruthlessly adjust their operating approach to suit.

Structurally, late-life assets may be separated from assets that retain development potential to help reinforce a tailored operating model. For example, one operator in the North Sea recently split the company in two: while one division continued to maximise production and extend field life, the other focused on becoming a safe and ultra-low cost operator at the forefront of late-life asset management.

Successful operators of late life assets give the facility or asset manager full P&L accountability. These leaders must align their headcount with the current and anticipated needs of the business, with an emphasis on operating capabilities, rather than exploration and development. To reinforce this, staff should be compensated and incentivised in a way that matches the priorities of the business: with a relentless focus on safety, operational improvement and cost reduction.

Process changes are required to reduce the burden placed on asset teams. Tailored standards and procedures for late life assets can significantly improve cost and efficiency. Examples include using lower yet still appropriate specifications for procured materials, or applying rules for maintenance and inspection frequency that are better tailored to the real risk profile of a facility and its remaining lifespan.

People and culture practices also need to change. This starts with the profiles required for leadership roles. Typically, the most successful leaders adopt a cost-focused approach — and are keenly attentive to the details of operational cost reduction. These leaders also work hard to change the culture from that of a traditional upstream business to one where every dollar of additional revenue or cost-savings is sought out aggressively. These individuals are not the typical AGMs or OIMs that you would find in the workforce today; companies are increasingly looking outside the industry to places such as the military to find leaders with the required mindsets and capabilities.

A successful operating model for late life assets must also give greater decision making power to operational staff. Typically this is best achieved by scaling back mandatory central functional support to those roles necessary for corporate assurance and risk mitigation. The remaining functional support should be deployed as an optional supply source. Asset managers can then choose whether to source in this support, outsource to cheaper providers, or not use it at all.

In the North Sea, players that have successfully redefined their operating models have seen costs decline by 50 percent or more — well outstripping what typical players have been able to deliver.

Oil sands

New development in oil sands has largely stalled since the crash in crude prices. As with late life assets, the first reaction from most oil sands developers has been to slash growth capex and preserve cash wherever possible. While this may be enough to survive a short-term downturn, oil sands players will be increasingly challenged to reinvent their operating models while low prices persist.

Oil sands developers will need to pull every cost-reduction lever at their disposal in their producing assets in order to grow. Many of these cost-reduction moves will be similar to those deployed at other asset classes, including, simplification of designs and specifications, standardization of work, and reduction in overhead. However, there are a few areas that will require a tailored approach for oil sands assets.

Turning first to structure, production teams have often been buried within project execution organizations, while commercial teams have typically been small and overlooked. Given the increasing importance of these functions, many will need to be carved out and placed closer to the executive team to allow for greater visibility and accountability.

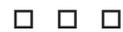
More broadly, many oil sands organizations have expanded their structures in anticipation of rapid growth. Often this has led to duplicate groups, extra layers in the organization, and over-investment in nice-to-have capabilities that are no longer affordable. This is especially true in the case of technical talent where fears of a labour shortage have often led companies to hire first and worry about organization later. Re-basing the organizational structure — both in terms of shape and size — will lead to flatter organisations, reduce costs and put front-line activities closer to the executive team.

Oil sands operators will also need to look at the processes they apply to these assets. For example, as oil sands assets mature, companies will need to distinguish between two capital project delivery models. Building large, multi-billion dollar phases requires a classic mega-project management approach. Going forward, there will be a greater focus on deploying sustaining capital — years of drilling identical well pairs for steam and bitumen — which will look much more like the ‘design once, build many’ approach in unconventional oil and gas development. This may require a two-track model for technical design and capital approval — one focused on customized technical design and risk reduction, and another focused on speed, agility and standard designs.

As oil sands operations trend closer to break-even, better cost transparency and accountability will be essential. Companies will need to build up their financial reporting processes so that cost and operational information are easy to access and understand — and institute more rigorous performance management discussions so that any cost uptick can be quickly spotted, discussed and addressed. Companies may begin to see opportunity in sharing costs with peers in activities such as transportation, lodging, maintenance, and warehousing, as well as subsurface and environmental R&D. However, alliances or outsourcing arrangements will be complex to manage; companies will need to build the necessary processes to establish these alliances and hold them accountable.

Here again, managerial talent will be a key factor. As steam assisted gravity drainage (SAGD) technology has become more widespread, companies were heavily focused on technology and subsurface skills — leading to a managerial class with a strong technical orientation. In the new environment, oil sands developers will need to build the commercial and business capabilities of managers. Managers will need to intuitively know how their costs break down, and which levers they need to pull. This may require an infusion of talent from outside Western Canada, and indeed outside of upstream oil and gas.

Other commodity sectors that have faced hard times, such as refining or mining, have developed a group of managers that can run a profitable operation without the buffer of high prices. Companies will need to tap into their global talent base to help bring global best practices in supply chain, field labor productivity, production optimization, energy efficiency, and crude marketing to Western Canada. Incoming talent should expect to remain in place for rotations of five years or more given the long-term nature of oil sands plays.



The changes described here will not always be easy for international oil companies to implement. Building the matrix and developing strong central functional capability has taken years. New generations of leaders have grown up with the matrix, ways of working have evolved and many benefits have been seen from global functions. However, the challenges of low oil prices have highlighted the need for a fundamental rethink. Tailored operating models are needed, appropriate for the value drivers and risk profile of businesses like unconventional, late-life assets and oil sands. This will help address the current cost challenges and also allow organisations to create maximum value from these businesses in the future.

With oil price now in the \$40s, there is no time to waste. Rather than implementing crude cuts that have the potential to harm the health of the organization in the longer-term, now is the time to adopt a more nuanced approach to ensuring that the operating model is fit for the future.

