A Focus on Execution Excellence
Pursuing high performance in downstream energy

High performance. Delivered.
Given declining profitability, moving to a low-cost position is imperative for downstream energy companies. Companies need to increase margins and cash flow amid declining demand, carbon regulations, pricing pressures and overcapacity.

In recent years, many downstream companies have pursued integration to achieve increased efficiency through coupling of assets into manufacturing complexes and the merging of organizations and processes. But as these programs reach maturity, companies now stand to gain additional returns by pursuing execution excellence in multiple areas, such as sales; supply and trading; inside plants and in core operations; in strategic procurement; and in back-office processes. In the next few years, investing in execution excellence is likely to be the decisive lever for value creation, increased return on capital and high performance.
The industry has responded in numerous ways to declining demand, shifting regulations and overcapacity, all of which have eroded margins in the past decade. From 1999 to 2009, refiners lost nearly 60 percent of their gross margins (see Figure 1) per dollar of feedstock purchased.²

The decline in fundamental profitability has put intense pressure on operators. Responses have included aggressive cost cutting, selling and idling non-strategic assets, as well as investing in emerging economies and businesses with higher growth potential.

The single most common response, however, has been tighter integration of the downstream business. While integration has meant different things to people in different companies, it typically has involved integrating assets and business processes with a goal of cost efficiency and margin growth across a regional or even a global supply system.

Many companies have used integration as a core tenet of their downstream transformation agenda. But as these integration programs reach maturity, the industry is turning its attention to “inside the plant” opportunities and challenges to address escalating costs.

Margins, which started to recover after a drastic fall during 2008-09,² have stalled due to competition in mature markets. In addition, emission mandates and growth in hybrid and electrical vehicle sales have held back demand. Accessing growth markets is problematic, as many consumers in these regions cannot spend as much on fuel as can consumers in mature markets.³

Greater efficiency driven by execution excellence is emerging as the new strategy to respond to multiple pressures. Execution excellence can be defined in many ways, but put simply; it allows organizations to realize the full potential of their business strategies and structural advantages by emphasizing simplicity, speed and discipline. Downstream energy companies can make major gains by pursuing excellence throughout the value chain:

1. In sales, supply and trading, by providing real-time data from an improved technology backbone to support commercial optimization.

2. In plant operations, by addressing execution effectiveness from both the organizational and functional perspectives to deliver benefits from increased asset and labor utilization, particularly for complex turnarounds.

3. In sourcing and procurement, by streamlining and standardizing processes and increasing supplier collaboration to increase procurement return on investment to par with global benchmarks.⁴

4. Low-cost back-office operations, developing networks of global business service centers, with support functions in pursuit of operational excellence and performance optimization.

Accenture believes that leading energy companies will invest aggressively in execution effectiveness programs that are targeted in duration and investment. Here is a closer look at four promising areas for execution excellence, and how they can contribute to high performance.
1. Sales, supply and trading

As companies move to highly integrated portfolios and facilities, commercial optimization is a mechanism to extract greater value. Benefits accrue through insights gained through end-to-end integration, from feedstock supply and trading to marketing and sales. Optimization relies on sharing up-to-date data, which provides visibility into current performance, leading to faster and more profitable business decisions.

Tactical approaches for commercial optimization include embedding sales and operational planning by region or globally, by centralizing functions and by improving supply-chain collaboration. In addition, leading companies integrate enterprise resource planning, supply chain and trading systems, and employ analytics to track and provide insights to improve performance (see Figure 2).

Several European and Mideast national oil companies that Accenture has worked with have implemented central planning for production, supplies, sales and logistics. Scorecards and key performance indicators (KPIs) help these companies track the impact of their business decisions on margins in the fuels value chain. Mass balancing and yield accounting systems compare planning decisions with actual results.

Implementation of advanced tools and data integration can also drive higher-value benefits via trading opportunities and privileged access to the supplies required by portfolio refineries. With such approaches, companies obtain a better position to profit from volatility, not only through trading but through refining and marketing decisions.

A narrow focus on technology tools, however, will not deliver the desired gains. An organizational approach focused on aligning capability and incentives with operational shifts to systems and processes needs to consider cultural change. Attention must be paid to integrating people, processes and systems across functions and business units.

In some cases, companies have established remote operation centers with a plant performance portal providing an integrated view and visibility into KPIs. Such portals provide KPIs and plant benchmarking data across units and functions, thereby supporting management decisions based on hard data.

A commercial optimization program typically requires three to five years for successful results. Based on Accenture’s experience, investment in such activities can cost as much as $75 million to $200 million for a multiyear transformation. If done properly, however, a commercial optimization program can yield far greater benefits: as much as $90 million to $125 million year after year.5

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Figure 2. Levers for optimizing sales, supply and trading.

<table>
<thead>
<tr>
<th>Key value levers</th>
<th>Potential benefits</th>
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</thead>
<tbody>
<tr>
<td>Integrate information systems to identify potential</td>
<td>Enhanced agility to deal with high volatility and pricing fluctuations.</td>
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<tr>
<td>benefits and trading opportunities.</td>
<td></td>
</tr>
<tr>
<td>Centralize sales and operational planning.</td>
<td>Identification of strategies with the greatest potential to optimize the value chain.</td>
</tr>
<tr>
<td>Establish remote operation centers to provide real-time</td>
<td>Improved forecasting and planning, and improved fulfilment of trading commitments.</td>
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<tr>
<td>and historical data.</td>
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</table>

Source: Accenture analysis.
Essential qualities of execution excellence

Three hallmarks of execution excellence—simplicity, speed and discipline—are especially relevant to downstream energy companies:

Simplicity

• Standard and integrated processes that operate at the lowest possible cost and eliminate duplication and rework across functions.
• Clear decision making and governance across business units and functions.

Speed

• Reduced response time to shifts in market conditions.
• Increased efficiency through improved governance, error reduction and improved capabilities.

Discipline

• A reliance on reporting against key performance metrics to manage performance. Analytics target value and translate performance data into requirements for ongoing improvement.
• A culture of execution excellence values collaboration and fact-based decision making, in addition to providing incentives for desired behaviors.
2. Plant operations

Refining organizations, which can be resistant to change, are the most vital to address. Even some of the leading companies in the industry lack clarity on how to compare cost and process performance across assets and sites, and how to address root causes of problems and systemic barriers.

Consequently, leading energy companies are investing in programs to increase operational effectiveness in manufacturing supply chains. The investments can be standalone or triggered by corporate-level activities, such as upgrading enterprise information systems or process standards.

Operational effectiveness includes multiple levers (see Figure 3) to increase structural cost advantages and improve margins for the long term. Accenture's work with leading downstream companies reveals that investment in key value levers can drive savings of $1.0 to $1.5/billion barrels of oil (bbl) across the site.

Figure 3. Value levers and potential gains from optimizing plant operations.

<table>
<thead>
<tr>
<th>Key value levers</th>
<th>Potential gains</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce losses related to downtime, planned or unplanned</td>
<td>Utilization improvement of 5 to 8 percent</td>
</tr>
<tr>
<td>Reduce costs for maintenance, repair and operations (MRO)</td>
<td>Savings of 10 to 15 percent</td>
</tr>
<tr>
<td>Increase capital efficiency</td>
<td>Savings of 10 to 15 percent</td>
</tr>
<tr>
<td>Improve the effectiveness of turnaround management</td>
<td>Savings of 20 to 30 percent</td>
</tr>
<tr>
<td>Increase workforce utilization and multi-skilling</td>
<td>Savings of 2 to 4 percent</td>
</tr>
</tbody>
</table>

Source: Accenture analysis.

Excellence program on track to lift lagging refinery to top-quartile performance

A leading international oil company (IOC), for example, wanted to fully comprehend the differences between a top-tier refinery and a lagging ‘target’ refinery. Accenture's approach in helping this client was to address all components of operational effectiveness and asset management, including processes, mechanical, technical and engineering.

Management and operations agreed on a realistic set of opportunities, including tactical implementation plans to meet site objectives and long-term strategies. The results were profound: bottom-line improvements, boosted by cost and labor efficiencies, were implemented in the target refinery, which ultimately freed up time for top-line strategies and optimization projects.

The company is midway through a comprehensive program to reduce costs and improve target refinery performance by $1.5/bbl, which will move the lagging refinery to a higher quartile performance in a span of four years.

Improvements in workforce utilization can be extended within plants to upskill employees across processes and craft areas. As another example, Accenture helped an IOC analyze refinery expenses for full-time equivalent employees by assessing where people were spending time, categorizing activities by complexity, and determining whether to eliminate, co-locate, or port activities and associated employees.

In cases such as this one, some of the lowest-hanging fruit can be gathered by addressing organizational structure and effectiveness through analysis of the governance model. Where relevant, upfront engagement with unions is necessary to build consensus for targeted improvements.

With advanced technology and highly skilled resources in regional business centers, some oil companies are considering a business model where multiple activities, even strategic engineering work, are performed remotely.
Effective planning reduces turnaround time by 4.5 days

A recent project at another leading energy company set out to determine critical success factors in repeatable turnaround and maintenance management. Accenture’s work with the client started with the initiation of a workshop of participants from multiple functions to develop a business process model, along with explicit goals for improvement.

A milestone plan outlined key activities from 18 months pre-turnaround through post-turnaround (see Figure 4), creating due dates and responsibilities for tasks and deliverables across numerous dimensions.

Optimization workshops were conducted 12 months prior to the major turnaround. The result was a turnaround playbook that detailed procedures, work packages, operational shifts, manpower, safety and equipment. The playbook covered the full cycle of pre-turnaround activities, such as scaffold erection, pre-fabrication and materials delivery, along with decommissioning and decontamination, maintenance, projects, inspection, commissioning and post-turnaround work. The workshops facilitated common understanding of activities, performance metrics and scope.

Streamlining critical-path activities via lean management reduced turnaround time by 4.5 days. Improved control of scope and scheduling saved 23 percent in cost. Improvements were made with respect to external third parties in the areas of safety, reduction of rework and using contractors more effectively, with an overall savings of 15 percent on external spend.
Turnaround effectiveness timeline and workshops

- Turnaround strategy: 20-12 months
- Scope development: 15-12 months
- Detailed planning: 12-3 months
- Pre-TAR: 3-1 months
- Post TAR: +3 months

Additional support:
- Contract and materials strategy and management
- Cost review and/or control
- Schedule support and/or review
- Leadership alignment
- Organization design and/or alignment
- Lean and waste elimination
- Safety reviews
- Project and TAR integration

Source: Accenture analysis.
3. Sourcing and procurement

Energy traditionally has lagged in sourcing and procurement effectiveness. Savings as a multiplier of procurement operating cost ranges between 10 to 12 times across industries. Although oil companies are making improvements, they still lag in the return on investment compared to companies in other industries.

The first step is to develop clear, tightly integrated strategies that drive business outcomes beyond cost reduction. Procurement should be proactively brought to the table as a value-creation partner and given the mandate to drive value (see Figure 5). A truly cross-functional and multidisciplinary governance that aligns procurement objectives with business objectives is key to enable integration and achieve success.

Decreasing the number of suppliers and increasing collaboration with preferred providers can improve safety and quality. Correlations between the high number of suppliers and safety incidents are now understood in the industry, where a majority of incidents have emanated from third parties.

Procurement spend coverage is a key driver to reduce maverick spend in the business and improve business collaboration. Benchmarks for execution excellence show successful companies actively manage more than 86 percent of total spend, according to Accenture research.

Creation of a procurement middle office can provide an efficient, standard approach to non-strategic procurement activities such as contract administration (including support and enablement of strategic sourcing agreements), tactical and spot sourcing, supplier on-boarding, master data management, and reporting.

Compared to traditional approaches to cost-focused procurement, which is showing decreasing marginal returns, execution excellence prompts procurement to focus on total value of ownership (TVO). TVO facilitates alignment with business objectives and considers levers beyond cost and cash.

And finally, more of the transaction burden can be handled by automated procure-to-pay (P2P) systems that target value from categories with low volatility in pricing. Leading companies operate "no-touch" P2P processes for 90 percent of their transactional volumes, according to Accenture, thereby driving cost and process efficiencies, along with improved visibility into spend.

**Figure 5. Key methods to improve sourcing and procurement.**

<table>
<thead>
<tr>
<th>Key value levers</th>
<th>Potential gains</th>
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</thead>
<tbody>
<tr>
<td>Improve alignment of contracts and spend to business needs.</td>
<td>Improved value creation by alignment with business agenda (e.g., engineering excellence, maintenance excellence).</td>
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<tr>
<td></td>
<td>Security of supply.</td>
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<td></td>
<td>Based on Accenture experience, organizations that focus on contractor sourcing and effectiveness can achieve up to 10 to 15 percent ($0.20 – $0.30/barrel) spend reductions in total installed cost.</td>
</tr>
<tr>
<td>Increase process efficiency and reduce procure-to-pay errors.</td>
<td>Standardization of process.</td>
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<td></td>
<td>Reduced risks.</td>
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<td></td>
<td>Improved compliance to contracts.</td>
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<td></td>
<td>Typical procure-to-pay savings are roughly $80 million for $1 billion of spend.</td>
</tr>
<tr>
<td>Improve access to enterprise-level procurement data.</td>
<td>Improved visibility into spend, thereby leading to better decision making.</td>
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<tr>
<td>Encourage innovation among suppliers.</td>
<td>Innovation networks beyond the boundaries of the company.</td>
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<tr>
<td></td>
<td>Access to innovation within and across industries.</td>
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</table>

Source: Accenture analysis.
Critical success factors for creating cultural change

Developing and sustaining an organizational culture of cost take-out is perhaps the most difficult aspect of running a downstream business. Successful programs align processes and systems with incentives, policies, communications and training.

Accenture’s experience highlights several success factors for execution excellence:

- A focus on programmatic change or targeted interventions to address the root causes of performance shortfalls.
- Visibly aligned leadership that provides clear direction for the program or an intervention.
- Centralized program governance, planning and management that tracks progress against clear enterprise-level financial and operational key performance indicators.
- Change management supported by consistent leadership and robust training at all levels to execute new processes. Union leaders need to be involved in change efforts.
- Organizational policies and incentives that align employee behaviors to realized outcomes in areas such as cost management and cash generation.
4. Low-cost service centers

Refining margins have settled at a lower parity point of $8 to $10 per barrel versus the more than $20 per barrel enjoyed during the golden age of refining. At the same time, refining costs have remained virtually unchanged. To reiterate, pursuing a low-cost position is a strategic imperative.

Moving transactional—primarily finance and accounting—processes to offshore centers, for many companies, has reduced costs due to labor arbitrage. Given external market pressures, oil companies are exploring additional value drivers in the business services space (see Figure 6).

Leading companies are migrating from the business service center (BSC) model to BSC networks to increase consolidation value. Embarking on this change entails an organizational model that groups all activities under certain definitions in a BSC organization, regardless of where the activity is being carried out.

To build a platform for BSC requires five key elements: process excellence, technology, data and analytics, delivery network and service excellence. It is only through the combination of all five elements that BSC unlocks material value.

For leading companies, BSC is viewed as a critical part of the integrated operating model to create efficiencies and scale across the organization. On the one hand, BSC provides increased operational agility and flexibility to quickly deploy capital, people and ideas to new markets. At the same time it also creates an efficient, streamlined organization at low-cost scale to serve mature economies.

Today’s BSC networks are not necessarily offshore. Some sites can be located in the same country as the head organization where close physical monitoring is required. Alternatively, a location might have a common border with the head organization if the nature of the business requires constant interaction, where language and cultural affinity are important, or when near-shore arrangements benefit from trade agreements.

A foreign location is used to deliver benefits that may not necessarily be available to local providers, resulting in cost savings in manpower, technology and overall operations. In addition, offshoring can provide round-the-clock service.

Options for creating a powerful BSC network have expanded greatly in recent years. The advent of technology, an expanding educated workforce and increasing cooperation through global trade agreements have contributed to a proliferation of options (see Figure 7).
Figure 6. Key value levers for low-cost business service centers.

<table>
<thead>
<tr>
<th>Key value levers</th>
<th>Potential gains</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implement a BSC model, which delivers value by performing strategic (vs. transactional only) services.</td>
<td>Based on Accenture analysis, leveraging low-cost delivery centers resulted in a competitive cost advantage of $0.50 - $0.70/bbl for three large IOCs.</td>
</tr>
<tr>
<td>Standardize, simplify and streamline processes in the BSC model.</td>
<td>Deliver results to the business at pace and with quality.</td>
</tr>
<tr>
<td>Identify locations with advantaged labor costs and highly capable people.</td>
<td>Value included in the range stated above ($0.50 - $0.70/bbl).</td>
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</tbody>
</table>

Source: Accenture analysis.

Figure 7. Business service centers for three large IOCs.

Source: Accenture analysis.
When considering where to locate service centers, we have observed that energy companies consider three criteria: 1) cost efficiency, including costs related to infrastructure, taxes, regulations and compensation; 2) business environment conduciveness, including political stability, cultural adaptability and infrastructure; and 3) quality of human capital, including talent pool availability, experienced talent pool, education and language.

BSC networks create value in many ways, but the primary value lever in downstream takes the form of cost advantage via wage arbitrage, eliminating low-value work and realizing economies of scale in process efficiency and standardization. The wage differentials between locations can be significant (see Figure 8).

The advantages, however, far exceed simple wage arbitrage. Gains from process efficiency, tax advantages and other economies of scale are also realized.

Based on Accenture analysis, leveraging low-cost delivery centers resulted in a competitive cost advantage of $0.50 - $0.70/bbl for IOCs (see Figure 9).

There is significant value in reducing recurring operational fixed costs by expanding and leveraging partnerships, and extending continuous improvement more broadly in the areas of supply chain and procurement; engineering administration capital project management; learning and development; and finance and accounting.

In the area of finance alone on a global basis, the highest sources of value stem from improved working capital management, reduced effective tax rate, improved credit risk management and reduced supply chain leakage. A similar scale of benefits is possible not only in finance but in other service towers such as information technology, procurement and human resources.

Figure 8. Estimated operations cost savings achieved by three large IOCs via the BSC model.

Source: Accenture analysis.
Figure 9. Wage comparisons of regional business service centers for finance and customer service functions.

Source: Accenture analysis.
Promising locations for business service centers

Up-and-coming locations for service centers:

- Philippines: English fluency and compatibility with Western cultures are underlying factors behind the success of the Philippines in business process outsourcing (BPO) and information technology (IT). The country is a prime location for voice-based services (e.g. customer service and contact centers) and data-capture operations.

- China: China’s entry into the global market has caused waves in a number of industries, and the BPO and IT industries are no exception. At present, certain issues come into play, such as trade policies, regulations and censorship. However, these may disappear as China eases itself into the World Trade Organization, as China is likely to become a major player.

- Nations neighboring the US: Canadian and Mexican participation in the North Atlantic Free Trade Agreement allows for flexible trade policies, incentives and tax exemptions, thus resulting in huge savings in indirect costs. The trade agreement also allows for the protection of intellectual property. Canada offers lower attrition rates in call centers compared to the United States, a sign, perhaps, that many Canadians consider customer service a more promising career.

- Chile: Among Latin American countries, Chile is fast becoming a competitive player. Its infrastructure, with a healthy digital network and superior satellite service, offers a good business environment for investors. Chile has also set up agreements with the United States and the European Union that include penalties for infringement on intellectual property.
Execution excellence is critical for capturing value by improving overall effectiveness and asset management in the context of downstream transformation. Improved execution excellence generally results in (1) reduction of losses related to planned/unplanned downtime and sub-optimization of assets; (2) increased efficiency and effectiveness in maintenance, production and workforce utilization; (3) reduced costs of materials for maintenance and operations; and (4) increased capital efficiency.

Identifying and capturing these opportunities requires moving to holistic programs covering cross-business levers such as an integrated supply chain for commercial optimization; lean manufacturing (i.e., reduced expenditures in maintenance, projects and turnarounds); value capture through strategic sourcing and category management; and optimized BSC networks.

Downstream companies that seek to increase margins would be well served to apply the aforementioned levers to improve the productivity of their working capital and assets. A comprehensive program of execution excellence provides a solid framework for sustaining cost control while pursuing high performance.
References

1 Accenture analysis, 2013.
2 Accenture analysis, 2013.
4 From 10 to 12 times return on investment (ROI) for top-tier performers, with ROI being savings as a multiplier of procurement operating cost.
6 Accenture analysis, 2013.
7 Accenture analysis, 2013.
9 Function-wise average salary has been calculated using the following weight ages 0-3 Years = 50%; 4-6 Years = 25%; 6-9 Years = 15%; > 9 Years = 5%. Variable factors such as allowances, expense claims, bonuses and Central Provident Fund (CPF) contribution are not considered. For uniformity, annual inflation rates of 5 percent use for Poland, Budapest and the Czech Republic.
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The Accenture Energy industry group serves a wide range of companies in the oil and gas industry, including international oil companies (IOCs), national oil companies (NOCs), independent and oilfield service companies. We collaborate with our clients to help them meet competitive challenges and shape solutions that advance their journey to high performance. With experience spanning the entire energy value chain, including upstream, downstream, oil field services and pipelines, our consultants work in over 20 countries serving more than 150 clients.