

BREAKING BAD HABITS

A NEW
ECOSYSTEM
STRATEGY
IN OIL & GAS

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As the oil and gas industry emerges from its worst downturn,

the industry still faces significant challenges, with unit cost—and profitability—per barrel being the most acute and widespread. It threatens the competitiveness and, in some cases, the very existence of industry players in a market with fundamentally different supply and demand forces.

Consider that prior to the downturn, over three-quarters of global oil and gas mega-projects exceeded their budgets and over half were late.¹ For “Super Major” integrated oil companies, returns on capital deteriorated by half despite high oil prices. The situation was no better for the North American shale industry, where approximately 40 percent of completions were uneconomic.²

Accenture Strategy industry experience has shown that supply chain has historically been one of the biggest culprits in failing to reduce the unit cost. Therefore, oil and gas companies need a fundamentally new way of working with their suppliers to begin tackling the unit cost dilemma. Examining other asset-intensive industries provides rich lessons on how to create and sustain an ecosystem that shares, innovates and competes together.

THROW OUT THE OLD PLAYBOOK

Like most commodities, oil and gas is a cyclical and a volatile business. When oil prices drop, oil and gas operators squeeze their suppliers for lower costs to shore up their balance sheet—and operators typically get what they want. For example, recent price deflation is approaching 50 percent of pre-downturn levels of products and services values.

When oil prices rebound, the tables are turned. Suppliers boost their prices and justify doing so by pointing to the strain in the supply chain due to increased demand and the higher cost of doing business after cutting to bare bones. Oil and gas companies have no choice but to acquiesce because increasing production in an upturn is critical to cash flow.

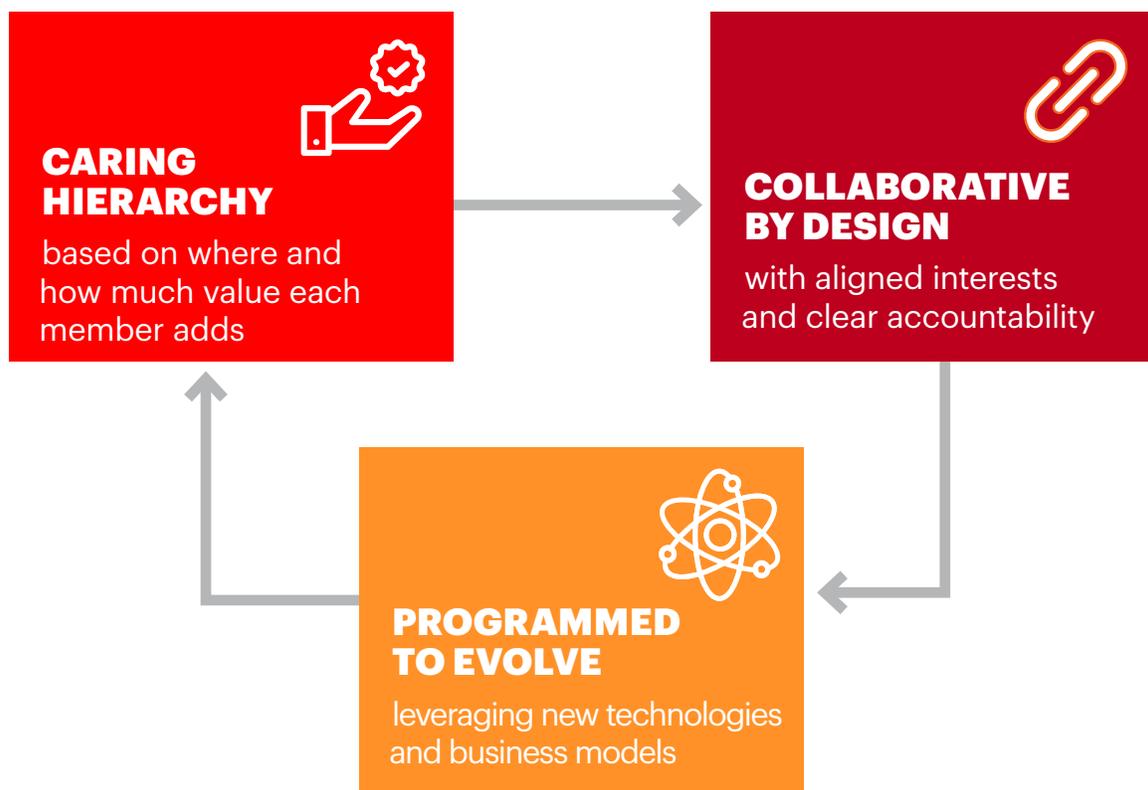
This constant “see-saw” of power driven by the commodity cycles has an industry-wide detrimental effect: No one takes the time to explore more effective models of working together. Want proof? Just look at oil and gas companies’ historical track record in reducing their unit cost. Accenture Strategy research shows oil and gas companies registered an average learning rate—a decrease in unit cost for every doubling of development activity—of just 7 percent, compared with over 20 percent for similar asset-intensive manufacturing industries.²

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That’s not to say many oil and gas companies don’t already have established strategic supplier relationships. They do, and they’ve used them to reduce cost and increase productivity. However, none have formed successful ecosystems, which is an entirely different business strategy. What’s missing? In our experience, successful ecosystems like those in the auto and aerospace industries have three common characteristics: First, their structure is a caring hierarchy based on where and how much value each member adds; second, they are by design collaborative with aligned interests and clear accountabilities; and third, they are commercially and technologically enabled to evolve (Figure 1).

These three lenses reveal the limitations of existing oil and gas supplier relationships. Most are merely based on sourcing categories sitting in silos along traditional workflows versus how these categories can together drive value. Integration is seen as a Trojan horse for bundling and paying for services not needed. Work is awarded to different suppliers to limit dependency and success is often measured by price concession. Most arrangements are arms-length—lacking even basic collaboration because most information is hidden and inaccessible. And performance management is a quarterly, one-sided reporting exercise. Making matters worse, the oil and gas industry has culturally been closed and slow to treating competitiveness as an industry conundrum.

FIGURE 1. Workings of a successful ecosystem



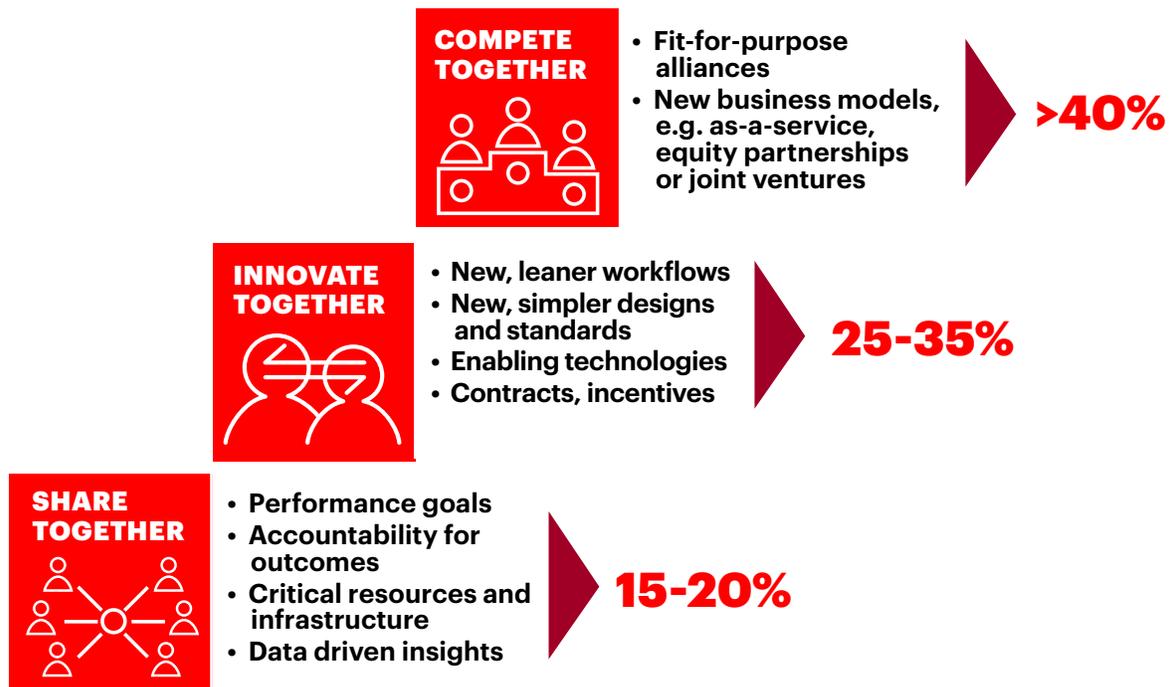
Source: Accenture Strategy

SHARE, INNOVATE AND COMPETE

To succeed in the next oil and gas cycle, operators and their counterparts need to replace the “see-saw” power games with a collaborative ecosystem—both operationally and commercially. We illustrate the three evolutionary stages of this ecosystem—sharing together, innovating together and competing together—and the value that could be realized in Figure 2.

The first stage of the ecosystem involves building the foundation for effective collaboration: sharing information and incorporating intelligence in the way oil and gas companies work. Here’s an example: Accenture Strategy helped a leading oil field services company and one of its strategic customers which were struggling to reach efficiency levels targeted by their multi-billion dollar surface operations contract. Surface operations, at its essence, is an assembly line—except instead of manufacturing a car or an airplane, this line “manufactures” an oil well and readies it for production. Streamlining the complex process across different service companies, each with their own operating model, required two vital things: Data visibility that made clear each party’s role in the process, and open and transparent performance monitoring. Such central visibility across all parties motivated them to proactively coordinate the “manufacturing” process. The result: Two months after implementation, they could execute more wells per month and enjoyed a leaner cost structure.³

FIGURE 2. Three stages of a collaborative supplier ecosystem and value potential



Source: Accenture Strategy

Accenture Strategy also has worked with oil and gas companies that collaborated with suppliers via standardization (i.e., “design one, build many”) and by selectively experimenting with performance contracting ties to technology effectiveness in increasing productivity. But while certainly promising, none of these involve a shift in ecosystem strategy—to innovate and compete together. Here’s where oil and gas companies can learn from other asset-intensive industries that developed highly successful collaborative ecosystems—automotive and aerospace—to significantly lower their cost basis, improve quality and reduce risk.

Perhaps the best example of the belief that a company is strengthened by its suppliers and both exist in a mutually beneficial ecosystem can be found in Japan. The keiretsu (“group”) approach pioneered by Japanese automakers, along with the principles of the Toyota Production System (TPS) that’s steeped in the philosophy of “the complete elimination of all waste,” transformed the Japanese auto industry.⁴ Engaging suppliers early on helped influence the overall design and setting mutual performance improvement goals reduced cost and cycle time while boosting quality. Today, several Japanese automakers design cars in 12 to 18 months while competitors routinely take two to three years, and costs for key components have fallen by up to 30 percent. Though Toyota demanded competitive cost structures from their ecosystem in line with the global markets, Toyota incentivized these reductions with temporary pricing stability and volume guarantees. With an ecosystem parent holding its suppliers accountable to a leaner cost structure while not requiring immediate and full transfer of cost savings as lower prices, Toyota’s suppliers developed leaner manufacturing and ultimately have competed alongside Toyota with similar goals in mind.

The three stages of a collaborative ecosystem, and the source of its value, are sharing, innovating and competing together

ACCELERATE ECOSYSTEM VALUE WITH DIGITAL

As Figure 2 highlights, the three stages of a collaborative ecosystem, and the source of its value, are sharing, innovating and competing together. Digital technologies are vital to building these stages fast and at scale, and play a key role in supporting increasingly sophisticated ecosystem actions:

FIXING THE BASICS

Intelligent data rationalization, cloud-based multi-tier control towers, and mobility applications (such as ubiquitous wireless, digital work and connected worker) can significantly increase the quality, connectivity and visibility of shared data.

LEANING AND REFINING PROCESSES

Technologies such as robotics (i.e. RPA), blockchains, drones, artificial intelligence (AI) and augmented reality (AR) can standardize and automate critical ecosystem workflows to improve accuracy, speed, safety and security.

ENABLING NEW BUSINESS MODELS

The transformative value of these digital technologies depends on how an oil and gas company and its ecosystem partners integrate these technologies into their business, or form new businesses with their ecosystem partners to fundamentally change their cost structures.

In our experience, digital technologies can significantly increase the speed and value of collaboration in oil and gas ecosystems in several areas. These include, among others:

- Engineering information management
 - specification
 - standards
 - deviation management
- Capital project lifecycle management
 - material flow
 - multi-tier manufacturing
 - contractor workforce management
- Lean operations
 - base maintenance
 - turnarounds
 - production
- Contract management
 - cost visibility
 - cash forecasting
 - budgeting
- Distribution
 - materials
 - warehousing
 - logistics management

FIGURE 3. Making a collaborative supplier ecosystem work

	SHARE TOGETHER	INNOVATE TOGETHER	COMPETE TOGETHER	DIGITAL ENABLERS
PLAN 	<ul style="list-style-type: none"> • Demand visibility • Cost to serve optimization 	<ul style="list-style-type: none"> • Rapid response & scenario planning • Design automation 	<ul style="list-style-type: none"> • Integrated planning 	<ul style="list-style-type: none"> • Cloud-enabled panoramic visibility • Demand sensing
SOURCE & PROCURE 	<ul style="list-style-type: none"> • Transparent operational & financial goals • Automated source-to-pay 	<ul style="list-style-type: none"> • Virtual category rooms • “Risk-Reward” contracts • “Ecosystem” goal-based contracts 	<ul style="list-style-type: none"> • As-a-service models • Joint ventures for support functions 	<ul style="list-style-type: none"> • Collaboration in the cloud • Augmented reality • Artificial intelligence
DELIVER 	<ul style="list-style-type: none"> • Real time fulfillment visibility • Logistics control tower 	<ul style="list-style-type: none"> • Standardized processes • On-demand transport • Dynamic network optimization 	<ul style="list-style-type: none"> • Dynamic decision processing • 4th-party logistics enablement 	<ul style="list-style-type: none"> • Pervasive wireless • Spend analytics • 3D printing • Robotics • Blockchains • Drones
BUILD 	<ul style="list-style-type: none"> • Multi-tier collaboration • Project life-cycle management 	<ul style="list-style-type: none"> • Connected worker • Construction automation 		
MEASURE 	<ul style="list-style-type: none"> • Performance data and analytics 	<ul style="list-style-type: none"> • Design-delivery lessons learned • Automated contract compliance 	<ul style="list-style-type: none"> • Performance linked to supply chain decisions 	<ul style="list-style-type: none"> • Self-driving vehicles • Mobility applications • Digital work packages

Source: Accenture Strategy

A leading airplane manufacturer provides a powerful example of how to leverage digital to improve capital project performance. Working with Accenture Strategy, the company implemented a digital multi-tier supplier collaboration platform that brought together a complex supply chain involving 65 suppliers across four continents. Doing so enabled the company to increase its monthly production by about 20 percent.

Another example involves a leading integrated oil and gas company. Building on its experience in other industries, Accenture Strategy helped design, source and implement a 4th-party logistics (4PL) service model for the company's onshore and offshore operations. The team leveraged digital supply chain capabilities such as advanced analytics, demand planning and decision processing. The results: Significant improvement in safety and risk exposure due to fewer trips and lifts; a 25 percent reduction in logistics cost; and scalable logistics talent management.⁵

BRINGING IT ALL TOGETHER: HOW OIL AND GAS COMPANIES CAN MAKE THE ECOSYSTEM WORK

Developing a collaborative ecosystem is a strategic choice oil and gas companies should consider as an answer to their unit cost challenges and a key source of competitiveness in today's still-volatile environment. Three high-level stages are key to making such an ecosystem work:

SHARE TOGETHER

Establish the ecosystem around the most important success criteria: a hierarchy based on value contributions and shared objectives; a collaborative working model to manage mutual interests and accountabilities; and a digital technology platform that will sustain collaboration.

INNOVATE TOGETHER

Leverage each other's strengths to bring new solutions, game-changing technologies and contractual arrangements that support a zero-based approach⁶ to operational and capital expenditures. In certain cases, innovation may require desegregation of the supply chain, and in others, integration.

COMPETE TOGETHER

Drive competitive agility through new commercial and business models that incentivize and reward the ecosystem for achieving ecosystem objectives – competing together as one team. Use a combination of advanced technologies to turn traditional support functions from cost-centers into profit centers through as-a-service arrangements or joint ventures.

A collaborative ecosystem is a clear break from the past for oil and gas companies, but it's one that's long past due. The future of oil and gas relies on exchanging old bad habits for a new, smarter way of working where everyone wins. The impetus is here. The time is now.

When will you make your move?

JOIN THE CONVERSATION



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REFERENCES

- ¹ Developing Strategies for the Effective Delivery of Capital Projects, Accenture (2012)
- ² Energy Perspectives: Using the Oil Price Crisis to Transform, Accenture by Muqsit Ashraf, Thomas Bonny, Nuri Demirdoven, David Rabley and Mo Saadat (February 2016)
- ³ Energy Perspectives: Ushering in Collaboration and Integration, Accenture Strategy by Muqsit Ashraf and David Rabley (February 2016)
- ⁴ Building Deep Supplier Relationships by Jeffrey Liker, Thomas Y. Choi, Harvard Business Review (December 2004) and The New, Improved Keiretsu by Katsuki Aoki and Thomas Taro Lennerfors, Harvard Business Review (September 2013)
- ⁵ Shell: Achieving a step change in logistics performance through the design and deployment of a first-in-industry 4PL logistics solution, Accenture (August 2015)
- ⁶ ZBB (Zero-Based Budgeting) and Closed-loop Cost Management: An Engine for Growth, Accenture by Kim De Maeseneer, Amaury Reychler, Robert Willems and Mitsuo Isaji (October 2015)

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