Evolving contracting models

Deepening and lengthening relationships in capital projects

By Dave Sivaprasad
Exploration and production (E&P) capital project performance has become increasingly challenging over the last decade. Projects are becoming more complex and larger in scale—average project breakeven costs for the industry multiplied almost fourfold between 2003 and 2013, from $15/barrel to around $60/barrel. Operators have struggled to meet the cost, schedule, and operability targets envisaged when projects were sanctioned.

The industry has responded in a number of ways to these challenges. Operators have invested time and resources on front-end loading efforts, applied greater assurance methods along the project lifecycle, and improved cross-functional integration in project planning and execution.

In addition to these internal efforts to improve project performance, many players have started to look outward to leverage the service sector’s capacity and capability to deliver on increasingly complex megaprojects. These efforts have ranged from long-term relationships with a few prime contractors and, to a lesser degree, long-term arrangements between operators and contractors, under which they set up integrated teams.

Greater collaboration and integration between operator and contractor have been achieved to some extent in downstream and utilities, but to a much lesser extent in upstream capital projects. This is slowly changing. For example, Shell and WorleyParsons signed a global agreement starting in 2013, with a five-year renewal option, covering engineering, procurement, and construction services for surface facilities capital projects involving unconventional oil and gas assets. Meanwhile, in another example, BP and Aker Solutions signed a two-year agreement starting in 2013, with a four-year renewal option, covering engineering, modifications, and maintenance services for BP-operated oil and gas fields in offshore Norway.

So is the time ripe for change in the industry supply chain, as companies seek to address the challenges of increasingly complex projects and systemic shortages of talent in the E&P industry?

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**FIGURE 1: SCOPE DIMENSIONS FOR E&P FACILITIES ENGINEERING**

<table>
<thead>
<tr>
<th>FRONT END</th>
<th>EXECUTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feasibility</td>
<td>Jacket/topside</td>
</tr>
<tr>
<td>Concept selection</td>
<td>Detailed engineering</td>
</tr>
<tr>
<td>Pre-FEED</td>
<td></td>
</tr>
<tr>
<td>FEED</td>
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</tr>
</tbody>
</table>

No single contractor can cover most of an operator’s project portfolio – operators need to scope the right opportunity and manage tradeoffs.

Illustrative - Not Exhaustive

SOURCE: ACCENTURE STRATEGY ENERGY (FORMERLY SBC)
Where does it make sense to start?

Opportunities exist to push the boundaries of current contracting models in facilities engineering and construction toward more collaborative and integrated arrangements between operators and the service sector.

E&P capital projects are highly complex endeavors. Some 80% of an operator’s total project capital expenditure (capex) in any given project is contracted out. Typically in conventional developments, 50 – 60% of expenditure is related to facilities engineering and construction, 30 – 40% in drilling, and the remainder in front-end engineering and owners’ costs for the project management team.

Here, we take facilities engineering and construction as a starting point, as this is the largest portion of capex for a project. Contracting models vary between the front-end Select and Define stages and the Execute (detailed engineering, construction, and commissioning) stages. The scope and players involved also vary depending on type of facilities; contractors that specialize in offshore pipelines operate distinctly from those specializing in jackets and topsides, for example. No single contractor has the capacity and capability to cover the full spectrum of project portfolio needs.

In general terms, the traditional model has been competitive bidding. Collaborative frame agreements have been used by many players in engineering and project management services, particularly at the Select and Define stages of a project for engineering and project management services. However, this form of contracting has been deployed to a lesser degree in Execute work packages—i.e., detailed engineering, construction, and commissioning.

Now, changes in these models are being seen, with more long-term relationships being developed with preferred prime contractors for specific types of work. This means some parts of the grid in figure 1 (see page 2) are being assigned to a long-term arrangement between operator and contractor.

Operators’ responses to the 2013 Accenture Strategy Energy (formerly SBC) Capital Projects Survey illustrate the trend. For example, around 70% of respondents go for competitive tendering in engineering, procurement, and construction services across work packages (Define and Execute). For some work packages, such as floating production, storage, and offloading (FPSO) facilities and subsea umbilicals, risers and flowlines (SURF), the extent of competitive bidding is lower, at around 55%, with partnerships and global supply agreements making up the remainder.

Sources of value to be achieved—why do it?

There is value to be realized for operators and contractors. Under appropriate conditions, new working models offer a win-win outcome for both.

The fundamental question is this: under what conditions will there be greater benefit from longer-term exclusive arrangements compared with competitive bidding?
Pushing the boundaries of existing contracting models makes sense only if there is value to be realized by operators and sufficient incentive for contractors to make it worth their while. The fundamental question is this: under what conditions will there be greater benefit from longer term exclusive arrangements compared with competitive bidding? Sources of value for an operator could include the following:

1. **Increased predictability** through repeatability, standardization, and systematic application of lessons learned to improve project performance (cost, schedule, and operability). This could come from securing service sector capacity for the long term, repeated engineering solutions and joint standardization, and joint learning and feedback from past projects. Scope of value is likely to be high in upstream, where often every new project is viewed as being unique and different. (Downstream facilities, arguably, have exploited more repeatability benefits than upstream).

2. **Organizational efficiency** savings through common working methods, as well as common processes and systems, known by both operator and contractor, that save time and eliminate inefficiencies associated with “learning how to work together” for each project.

3. **Time and cost savings** from reduced tendering: time is saved by the operator, while the contractor saves on the cost of tendering.

4. **Operational improvements**: long-term collaborative relationships enable operators and contractors to co-develop engineering solutions that push the performance envelope of projects and improve reliability and production performance.

![Evolution within other industries, leading to greater collaboration between manufacturers and suppliers, offers some interesting parallels to possible changes in oil and gas.](image)

**FIGURE 2: TOP THREE REASONS TO PURSUE PARTNERSHIPS AND GLOBAL SUPPLY AGREEMENTS**


**SOURCE:** ACCENTURE STRATEGY ENERGY (FORMERLY SBC) CAPITAL PROJECTS SURVEY
Around 80% of operator respondents in the Accenture Strategy Energy (formerly SBC) Capital Projects Survey said they were targeting greater predictability through longer term agreements to improve value.

In parallel, there are sources of value to be captured by contractors in intensifying commercial arrangements, including the following:

1. **Certainty in revenue:** there is value in certainty of revenue rather than competing for each new phase of work. The proverbial bird in the hand is worth two in the bush.

2. **Reduced costs of tendering:** each competitive tender costs a contractor time and resources to put a bid together.

3. **Potentially higher premiums:** premiums may be predicated on performance.

Such factors are expected to drive better project performance and contribute to increased value creation.

The extent of benefits for an operator from these sources of value is debatable. From our experience of working with major project leaders and their teams, they could translate into (1) project time savings from reduced tendering and organizational efficiency through common ways of working for owner and contractor; (2) capex savings over multiple projects through standardization benefits and application of lessons learned; and (3) production gain/mitigated potential loss through higher reliability by using proven engineering solutions.

In one example, an operator developed five deepwater developments over a period of eight years, working with the same contractors in the Execute stage. The difference in project performance was reported to be a 60% reduction in cost and a 50% reduction in construction time from the first to the fifth development.

Similarly, another operator has demonstrated considerable cost and schedule savings with development across eight spar platforms with the same EPC contractor. Many factors contributed to this outcome, but a major part was played by consistency, predictability, and shared learning achieved through a long-term relationship between operator and contractor across these developments.

Finally, although exclusive commitments are likely to offer value to both an operator and contractor, this should not be mistaken for a reallocation of risk. The business models and ability to carry project risk are not the same for operator and contractor. Operators are best placed to bear the risk of hydrocarbon monetization, while contractors are not.

**Observations from other industries—where have we seen this before?**

Evolution within other industries, leading to greater collaboration between manufacturers and suppliers, offers some interesting parallels to possible changes in oil and gas.

Automotive, aerospace, and electronics industries have restructured around original equipment manufacturers (OEMs) and tier-1 suppliers, with increased collaboration along the supply chain.

The three industries share trends in the supply chain: (1) early involvement of suppliers in product design; (2) joint R&D efforts and initiatives between OEMs and suppliers; and (3) more risk sharing between system integrators and OEMs.
For example, in automotive, a significant consolidation of suppliers has been observed, with the number of suppliers falling to a sixth of 1986 levels by 2003. Meanwhile, in the same period, the size of the supplier market increased sixfold in value. In aerospace, there is ongoing pressure from OEMs to consolidate suppliers.

**Actions for the future—what next?**

Operators and contractors have the opportunity to shape a new model within the E&P industry.

The extent of change the oil and gas industry structure is likely to experience is hard to predict. The possibilities described here imply changes to both commercial models and ways operators and contractors work together. These could include altering how performance is measured and managed, shifting contractor and operator mindsets, and managing inevitable conflicts of interest over time. That being said, we believe operators and contractors alike will benefit by preparing themselves.

Outlined below are the questions we believe that E&P operators and contractors need to address to shape the landscape and improve their competitive position.

**Project portfolio and company scale to make collaboration work**

1. How deep does the portfolio need to be for gains from collaboration to outweigh competitive bidding?
2. What are the skills and capabilities needed from the service sector to meet the needs of the portfolio?

3. The value of collaborative and integrated contracting models between operator and contractor is more obvious for larger players (i.e., larger operators with deep portfolios with repeated projects and large contractors with broader capabilities that can deliver integrated offerings). Given this, how can small to midsized operators with a limited portfolio secure arrangements that will give them a competitive advantage? How can midsized contractors (e.g., those with specialized capabilities or a narrow geographical focus) carve out niches in the supply chain that lend themselves to collaborative and integrated contracting models?

**Value creation and performance management**

1. How will performance and incentives be defined across multiple projects?
2. How will value creation be measured and assured across multiple projects?

**Organization and culture**

1. What maturity is required within both operator and contractor organizations to enable adoption of new working methods? How can this issue be addressed?
2. To what extent are operators and contractors ready to engage in a new relationship fundamentally different from the conventional owner/contractor one? For example, to what degree can operators and contractors increase the level of transparency of information that may traditionally be considered confidential, but is necessary to realize long-term gains?
Managing constraints

1. Will joint venture partners accept a collaborative arrangement with the service sector? Under what conditions will this work?

2. Will there be regulatory constraints that prevent deployment of such arrangements? For example, regulatory requirements for competitive tendering.

3. How will an operator respond to competitive action by other contractors not party to long-term arrangements with an operator?

Standardization benefits

1. How much will the organization be willing to push standardization against the “one of a kind project” approach?

2. What trade-offs will be required to address the uniqueness of individual projects?

The time appears ripe to make the change. To what extent and at what pace this change happens remains to be seen. In our view, operators and contractors alike have an opportunity to proactively position themselves for the future.
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