

Operations Practice

The winning moves in project-based services

It's time for companies to stop regarding project-based services as loss leaders.

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Project-based services generate a high percentage of revenues for companies with large, multi-skilled mobile workforces. Yet many companies are willing to take a hit on their quoted margins for these services so that they can get a foot in the door to sell products or more profitable, longer-term maintenance services. Getting a foot in the door is a good idea, but a company can do it without taking a financial hit on its project-based services.

To achieve higher margins, companies need to extract maximum value from each project. For many companies this means improving quotations, scope management, revenue management, and resource management, as well as making delivery more effective. It also means applying a different mind-set.

The challenges are significant, however. Companies often struggle to set the right scope for projects, translate that scope into a solution, allocate the right resources, and effectively execute. Overcoming these challenges pays off in the long term: a high-quality experience sets the tone for what customers can expect on an ongoing basis and increases the likelihood that they will purchase additional products and services.

Leading companies have recognized both the opportunities and challenges. Their experiences point to a set of best practices for winning in this large, established market.

What are project-based services?

Considering that many companies have overlooked the opportunities, the first step in gaining traction is to align on an understanding of what project-based services entail.

We define project-based services as services related to installation, modernization, periodic overhaul, moving, and decommissioning that are project-oriented and, in most cases, utilize both labor and materials. Examples include installing a turbine for an energy customer, or implementing a control system into a new building for a real-estate developer. Tasks are interdependent and often require multiple skill

sets (for example, mechanical skills to install the physical equipment and electrical skills to commission). A project is considered successful if the company delivers the project on time, on scope, and on budget.

How project-based services are priced

A company determines the scope and budget of each project based on an estimate of the labor and materials needed to deliver the customer specification, usually defined in a request for proposal (RFP). Based on the RFP, the contractor develops an estimated level of effort (LoE), then uses the LoE to develop an estimate of cost, typically called the basis of estimate (BoE). In the final step, the contractor uses the BoE to develop its estimate, which it provides to the customer.

This estimate can either be “binding” or “subject to change.” The price for the project is determined by adding a margin to the estimate. Contracts often specify a fixed price for a pre-defined scope of work. The more accurate the original estimated scope of work, the greater the chance of achieving the quoted margins.

Project-based services are provided by original-equipment manufacturers (OEMs), or by companies that operate as independent contractors that compete with OEMs, or serve as subcontractors or dealers to OEMs. The project-based model is dominant in product- or project-oriented end markets, including industrials, infrastructure, medical products, technology, banking, telecommunications, oil and gas, and energy and mining (Exhibit 1).

The challenges in capturing margins

Our experience points to five challenges that companies must overcome to capture the full margin potential (Exhibit 2).

- 1. Setting accurate scope and price.** Many projects are competitively bid. A contractor that overestimates loses the bid, and one that underestimates wins the bid. If a business

Exhibit 1

The project-based model is dominant in product-oriented or project-oriented end markets.

Project-based services are prevalent in many industries, including:



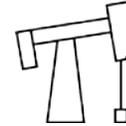
Industrials
(e.g. fire suppression, HVAC, security)



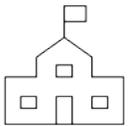
Medical products
(eg MRI, X-ray, or laser machines)



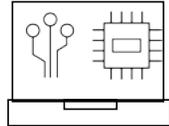
Banking
(eg ATMs, payment hardware)



Oil and gas
(eg control systems, specialty valves, pressure tanks)



Infrastructure
(eg elevators, prefabricated modules, compressed air)



Technology
(eg servers, data banks)



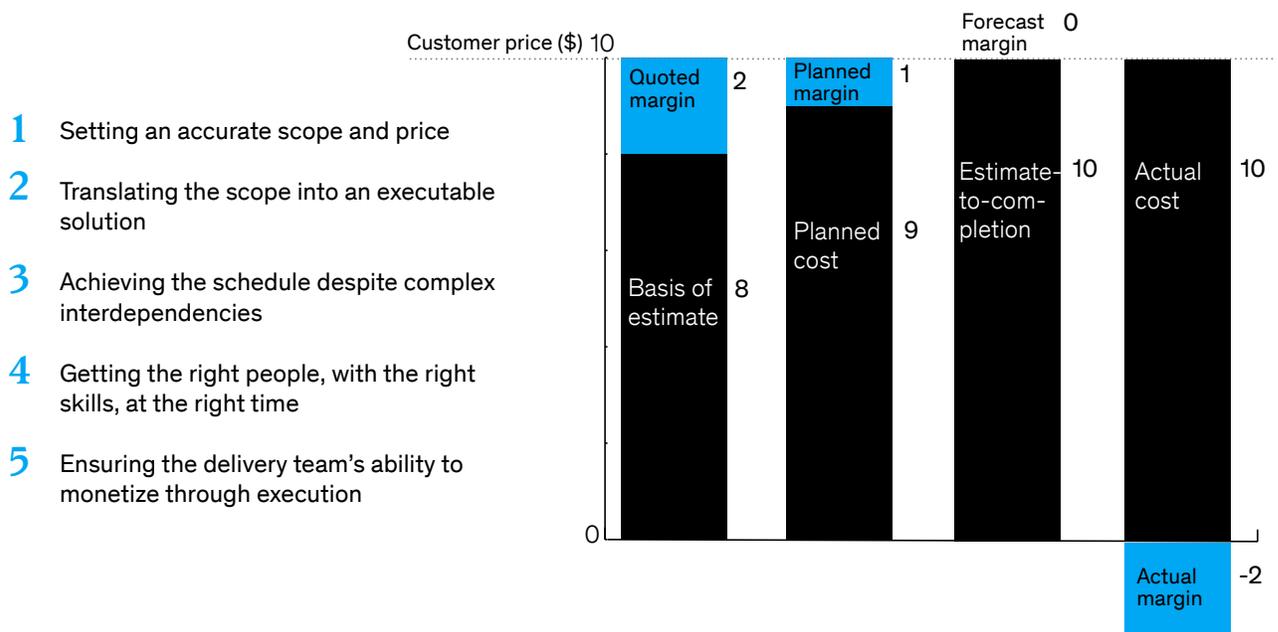
Telecommunications
(eg wire-line, new connections, towers)



Energy and mining
(eg solar systems, turbines, generators)

Exhibit 2

Companies face five challenges in capturing margins for their project-based services businesses.



does not manage the situation carefully, it ends up winning unprofitable, underestimated projects. The most profitable companies are those that are the best at setting accurate scope and estimates. Setting the scope is hard because projects often entail a high level of customization—companies feel obligated to scope each project from first principles to meet the customer’s specific needs. To make matters worse, the scope of work and BoE are set by the sales team without the appropriate level of support from the operations team. Because the sales team receives commission on the quoted margin, it is incentivized to set high margins by reducing the BoE to unrealistic levels. Sales incentives are typically not adjusted to reflect the actual margin achieved by the project at completion. In such cases, it is impossible from the outset to achieve the BoE and quoted margin.

2. Translating the scope into an executable solution. Once the sale is made and the scope has been agreed with the customer, handover from the sales team to the teams responsible for solutioning (including design and planning) is often poorly managed, or may be neglected completely. The resulting lack of alignment means that scoped (and contracted) items are not included in the solution, or that items not included in the initial scope are added but not paid for by the customer. There is often a large difference between what is planned for and reality: for example, the plan may call for 85 percent utilization of resources, but only 68 percent utilization is achieved through delivery.

3. Achieving the schedule despite complex interdependencies. A project team’s ability to overcome interdependencies is critical to achieving schedule commitments. Any delay in completing an activity on the critical path results in an equal delay in the overall project timeline. Typical interdependencies relate to:

- **Materials and equipment.** These may be unavailable due to ineffective planning or unexpected supply-chain delays.

- **Internal labor.** Inadequate backlog planning and capacity management affect the availability of labor. In many cases, technicians have very specific skills and are not cross-skilled to be able to perform a variety of jobs.
- **Subcontract labor.** Misaligned contract terms or a failure to align incentives with project priorities often result in the unavailability of subcontract labor.
- **Site access.** A company may not be able to gain access to the project site due to external factors. These include the customer’s unreadiness to provide access; dependencies related to the bill of materials (BOM), equipment, or people; or delays in receiving permits.

4. Getting the right people, with the right skills, at the right time. Matching the right resources to the right projects is a major challenge, given that large portions of low-skilled or non-specialized work are subcontracted out to external parties and demand is highly variable. Our experience shows that project managers need stringent resource-planning systems and rate sheets to properly assign costs to skills. In the absence of stringent controls, project managers tend to be biased towards using their favorite resources (or hide them from other managers), which drives utilization down across the board. Projects are often left with imbalanced teams that have either the wrong mix or level of skills (for example, too many high-cost specialized mechanics and not enough general technicians). Or companies may be forced to delay starting until the right mix of labor is available. Both outcomes reduce project margins.

5. Monetizing through execution. Services is an execution game. For project-based services specifically, customer changes make it hard to execute to plan. Even if a company can successfully set up each

project for success by overcoming challenges 1 through 4 above, it will still lose money if the project team fails to execute to plan. The main challenges include:

- **Managing customers' scope changes.**
Companies expect that customers will request changes, and indeed this happens on most projects. Despite the inevitability, companies often execute scope changes without payment, owing to poor change-management processes or project managers' reluctance to have a difficult conversation with the customer.
- **Tracking progress and earned value.**
Companies struggle to see actual progress against the plan, because they are unable to understand and track earned value (the true value of work completed versus the cost expended) throughout project execution. By the time a project team sees cost overruns, it is often too late to make appropriate course corrections.

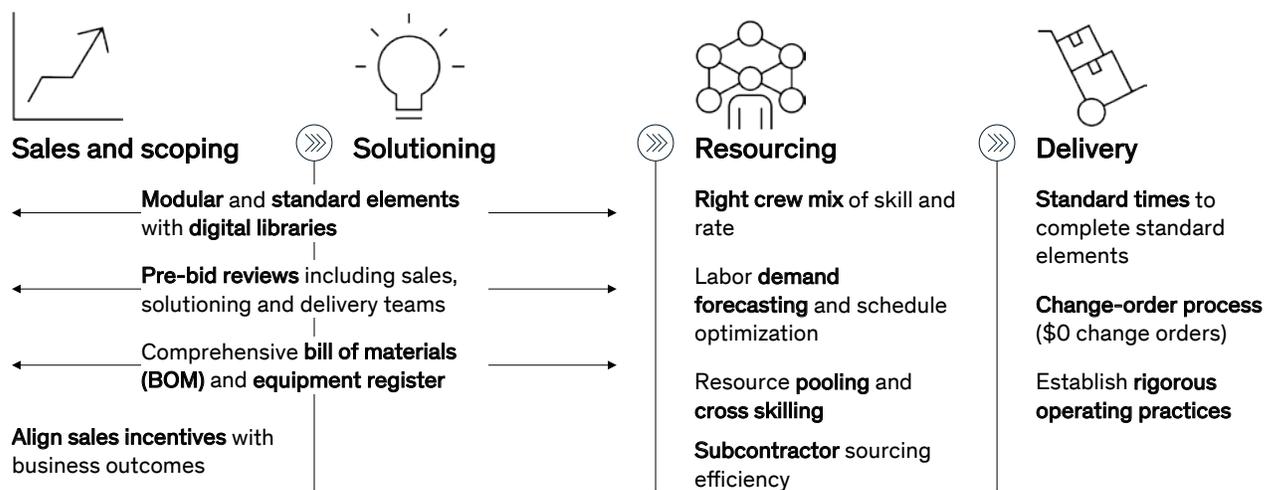
How to win

How can project-based services businesses overcome these challenges and maximize value? To explore the answer, we present a set of best practices (Exhibit 3) that are illustrated by two case studies:

- A large enterprise-services company experienced low margins and suffered from inconsistent management and operational practices. The root cause was poor transparency into performance, which required an end-to-end transformation to remedy. A three-year transformation program contributed to EBIT improvement of more than \$1.2 billion.
- A residential energy company experienced rapid growth (exceeding 20 percent annually) to become a market leader. But poor cost control and impaired performance visibility led to a plateau in productivity and inconsistent management of branch operations. To address the problems, the company designed, piloted, and scaled a new way of working—ultimately

Exhibit 3

Best practices apply at every lifecycle stage, requiring behavior changes from sales reps through to delivery teams.



achieving a 30 percent increase in project margins through reduced costs for technician labor.

Build a digital library

Our research shows that many projects are repeatable. And even for those projects requiring high levels of customization, a portion of the work is repeatable. Yet, we find that many businesses do not identify and catalogue these repeatable standard elements and time frames. Companies that do so drive value throughout the project lifecycle by applying standard elements and times in sales, scoping, solutioning, and execution.

To standardize incoming demand and prevent unnecessary customization, the enterprise-services company created a catalog of standard project archetypes for each capability—specifically for high-volume projects. It also instituted a solutioning factory to promote standardization and decrease response time. The factory enforces adherence to standard guidelines for each archetype with respect to effort estimation, skill mix, and remote support, among other topics.

The energy company was already using standard elements to solution and price each project, but this standardization was not flowing into resourcing and execution. It designed a dense block-scheduling methodology based on standard task times. The methodology establishes the schedule based on hours per task (instead of days for each project) and geographic zones (instead of resource pooling across all branches). It also set specific week-by-week milestones, rather than using monthly backward-looking project reviews. The company measures the performance of planners and technicians against a shared schedule-density performance indicator (percentage of standard hours scheduled and standard hours completed each week).

Align sales and delivery teams

To improve the accuracy of estimated quantities and project scope, systematically link the sales and estimation teams with operations and delivery teams.

The energy company created a pre-bid review process to ensure that the operations team approves the labor and materials quantities used in the estimate. Additionally, it regularly conducts project post-mortems with sales, estimation, and operations teams. They use the meetings to identify material risks that affect executed margins on completed projects. The insights are fed into standard scope elements and estimates of risk and contingency for future projects.

To sustain collaboration between sales and delivery teams, the company changed the sales team's incentives so that a portion of commissions were paid on the quoted margin and the remainder was paid on the actual margin achieved at completion. The company also tracked and managed the performance of sales and delivery teams based on shared metrics: the percentage of pre-bid reviews completed and the percentage of margin leakage (the difference between the quoted margin and actual margin).

Develop a bill-of-materials and equipment register linked to subcontractors

To improve the readiness of materials, equipment, and subcontractors, develop a comprehensive BOM during the solutioning phase and systematically feed it into the procurement process. Leading companies have created a detailed and dynamic BOM and equipment register, which the procurement team utilizes to respond to changing project priorities. They also link the detailed BOM to subcontractor RFPs, to ensure commercial alignment with external labor and materials providers.

When subcontractors execute a portion of the project scope, they apply the same level of rigor to developing the BOM corresponding to the subcontractor's scope of work, as well as to delineating responsibilities for sourcing different parts or renting equipment. Delegating the choice of equipment or installation materials (such as cable or parts) to the subcontractor may expose companies to the risk of claims and change orders, or result in schedule delays.

Transforming project-based services helped one company improve EBIT by

\$1.2 billion

Match crew-capacity supply to demand

Smart resourcing ensures that all projects have the right mix of people to execute successfully. It also optimizes the resource pool available to the full portfolio of projects, increasing the utilization of labor and driving out wasted non-productive time.

The enterprise-service company implemented best-in-class resource-management practices that ensure effective demand-supply matching, resource allocation and de-allocation, demand forecasting, bench and utilization management, and competency development. It established a standard intake process that captures and logs all incoming demand, while segmenting work based on complexity so that it allocates work to the right pool of resources.

The energy company had long allocated standard crew sizes to each project, irrespective of project size and complexity. To improve how technicians were allocated, the company built a tool to size crews based on quantities of standard elements (for example, number of project components) and common complexity factors (such as the building type and configuration). This enabled it to match crew sizes to standard project requirements, delivering immediate productivity gains.

Build a better change-order process

Create a simple change-order process and communicate it to project teams. With a clear process in place, leading companies hold project managers

accountable for margin erosion resulting from an increased, uncompensated scope of work. They also train project managers and crews to understand scope elements and exclusions, apply the change-order process, and discuss change orders with customers.

The enterprise-services company took this one step further by implementing a \$0 change-order process. The process enabled the company to track scope changes that it could not charge to the customer, referred as \$0 change orders. By tracking each \$0 change, the company was able to identify and assign actions to address the root cause of the change.

For example, the work may have been outside the initial scope, or it might have been in-scope but missing from the solution. A quality issue during execution necessitated rework, or a change requested by the customer turned out not to be recoverable. The process provided the company with a balance sheet to show how much work it had given each customer for free. It used the information in future bidding and negotiations, enabling explicit discounting conversations.

Establish rigorous operating practices

The enterprise-services company took a number of steps to improve the rigor of its operating practices.

- Establishing rigorous financial-performance management that looked at project variability. In post-mortem reviews, the company carefully scrutinized projects that performed much better or much worse than planned, so that it could reuse successful approaches or prevent a recurrence of problems in future projects.
- Adopting core metrics to track performance at the organization and project levels, including financial, operational, and process-maturity indicators.
- Establishing a governance and meeting cadence to review financial performance at the levels of portfolio and project.
- Instituting operational performance management of projects through productivity-tracking systems that measure technicians against actual hours used to complete each standard task. This standardizes workload measurement across projects that have different characteristics.
- Enforcing strict governance practices to ensure project-level visibility into financial performance and resource-level visibility into economic utilization.
- individual technicians' productivity while maintaining or improving safety, quality, and customer performance.
- Using weekly digital performance scorecards to create visibility into individual technicians' performance.
- Conducting performance-management forums, such as weekly huddles, weekly management-coordination meetings, monthly one-on-one feedback meetings, and ride-along coaching. The forums identify performance gaps and issues preventing target achievement, escalate up the business for resolution, and communicate resolutions back to the front line.
- Creating a digital resource-management tool that matches resources to specific project requirements.
- Implementing technician flex time (a different number of hours for each workday) to reduce unplanned unproductive time resulting from issues with customer access or parts availability, among other unavoidable issues.

The energy company also recognized the importance of operational rigor. Its actions included:

- Instituting an incentive program for front-line installers, schedulers, and management, explicitly linked to business financial performance.
- Focusing the business around a set of simple performance indicators, designed to drive

By following the best practices we have discussed, a company can promote consistency in its operations, gain predictability for its revenues and profits, and, ultimately, deliver higher margins. Companies that master the winning moves will capture a significant competitive advantage as project-based services become an increasingly important component of their business.

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