

Let's make a (better) deal: From cost to value in engineering services

Organizations get more from their engineering-services providers if they streamline cost negotiation and emphasize value more than just cost.

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A series on operations transformation in a public-sector organization

With demand for services rising faster than tax revenues, public entities around the world face unprecedented pressure to do more with less. Many think they must make a stark choice: cut service quality, cut availability—or cut both. This series of articles follows a large US public agency that chose another option: find radically better ways to deliver services by completely transforming its operations. Within 36 months, the agency booked nearly \$2 billion in cost efficiencies, while also building the capabilities of more than 10,000 people to make those changes sustainable.

Engineering services contracts for construction projects—roads, pipelines, bridges, buildings—are tricky to negotiate. The design phase has a big impact on the overall success of project, affecting the cost, complexity, and timescale of construction. Yet too often, pressures for short-term savings lead to long-term pain.

Responsible for an extensive portfolio of infrastructure assets, the US agency negotiates several hundred such contracts every year, with individual project values ranging from a few thousand dollars to several million. The agency believed it had everything it needed for effective negotiation: a large pool of qualified providers to choose from, a structured procurement process, and highly capable negotiators.

High variability

But both the negotiation process and its results showed high levels of inconsistency and variability. Negotiations could take anywhere from six weeks to eight months, with small, simple projects often taking just as much time as large, complex ones. The fees the agency paid were no more predictable: for similar work by the same engineers, rates on different projects could vary as much as threefold.

Further investigation uncovered two underlying problems. First, the agency lacked a reliable mechanism to share information on the outcomes of prior negotiations. Second, teams often entered the process with limited understanding of the amount of work actually required to complete a project. The combination meant that teams tended to be overly reliant on initial contractor bids as the baseline for negotiations. And they focused excessively on the costs contractors would incur, rather than the value they could deliver. As much as 90 percent of negotiation time was spent agreeing contractor hours and work rates, even though engineering costs typically account for only 10 percent of the overall cost of the project. Strategies to address the remaining 90 percent, like searching for lower-cost technical solutions or preventing construction delays and cost overruns, took a back seat.

A new focus on value delivery

To address these issues, the agency decided to overhaul its negotiation and contracting practices. That effort had three overall goals; to accelerate the negotiation process, improve standardization and information sharing between projects, and strengthen contractors' incentives to reduce overall project costs and improve outcomes.

Reducing friction

First, the agency designed a simpler negotiation process, which eliminated unnecessary steps, reduced delays and waiting time, streamlined internal communication, and facilitated tracking. To cut the time spent on hourly-rate negotiations, it developed a standard rate card covering around a dozen common engineering roles. Contractors were given guideline rates to use in bid preparation, and agency teams were given an acceptable rate range to use during negotiations.

Capturing more value

To give negotiation teams a better upfront estimate of the work required to complete a project, the agency built a central database of hours and contract terms from previous projects. It also introduced new incentives for contractors, making wider use of an "alternative technical concept" approach that it had originally applied only to the largest projects. Under this system, contractors were encouraged to suggest design changes that could reduce overall project costs, and rewarded with a share the resulting savings. The introduction of constructability reviews during the design phase, meanwhile, helped to identify and eliminate many of the issues that commonly caused delays, changes, and cost overruns during construction, and helped identify further savings opportunities. Post project reviews allowed the agency to capture successful ideas and best practices and incorporate them into standards for future projects

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The new processes reduced the time required to negotiate new contracts by as much as 80 percent, and helped the agency cut its engineering services costs by 10 to 15 percent, by reducing the variability in contractor rates and hours for similar projects. Greater use of contractor-led value engineering, meanwhile, helped reduce overall construction costs by between 3 and 5 percent. In total, the effort produced ongoing savings of around \$200 million per year.■

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