



Stopping the insanity:

Three ways to improve contractor-owner relationships on capital projects

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Major capital projects are habitually beset by overruns and delays, but three solutions offer a path out of entrenched dysfunction and to increased profitability.



The definition of insanity is said to be doing the same things repeatedly while expecting different outcomes. Sadly, this is too often reflected in the delivery of major infrastructure and capital projects.

Time after time, our approach embraces the same contracting and construction techniques, the same relationships, and the same arguments. Yet we continue to be surprised when things go wrong.

Despite huge amounts of research and effort by construction professionals and project owners around the world, a disturbingly large percentage of projects still fail to complete on time or to budget, with 90 percent of megaprojects facing cost overruns, according to research from Oxford University. Whether in the public or

private sector, the industry's reputation for predictable, consistent, and reliable delivery is uneven.

Numerous major publicly- and privately-funded projects in the transport, energy, and building sectors have grabbed media headlines and embarrassed public officials around the world as delivery and budget predictions have run off course.

Certainly the lessons are there, yet each new project starts with the same pronouncement: "This one will be different. It will be on time and on budget." But most of the time, that claim results in disappointment.

Two key questions emerge:

- What causes this insanity?
- What can be done to stop the insanity?

These are certainly not new questions, but it is time for the industry to consider a new perspective and find a better outcome.

WHAT CAUSES THE INSANITY?

The root causes of project delay and cost overrun are well documented. Issues include poor project initiation, insufficient time spent on front-end design, the management of resource productivity rather than workflow productivity, and the use of contracts with inappropriate risk transfer.

But while these issues help us to understand why projects can go wrong, they do not explain why the sector consistently operates in the way it does. Understanding this behavior is more complex, and McKinsey research has identified two primary drivers.

First, research from McKinsey and industry experts shows that the number one cause of project overruns and delays is the poor procedures often adopted by project owners. To break from the cycle of repeated errors, these owners must take a stake in efforts to help drive the innovation that is vital to promoting change.

Of course, not all owners are equal. For many, major capital projects are a one-off, an exercise never to be repeated. To others, such projects are at the core of their business.

Some get too involved in the project, causing scope creep and costly and inappropriate rework. Many are not involved enough, causing delays due to slow decision making,

design-review cycles, and last-minute, third-party interference.

Either way, when owners adopt poor delivery procedures no one wins. For the supply chain, any appetite for innovation quickly evaporates.

Second, this environment contributes to an important factor: the low underlying profitability of most companies involved in the delivery of large-scale capital projects. Most engineering, procurement, and construction (EPC) firms make 6 to 11 percent pretax margins and have relatively weak balance sheets. As such, they have no financial “shock absorber” to enable innovation.

On major projects, failure is usually very public and can lead some EPC firms to bankruptcy, a strong incentive to stick with the “tried and true.”

By comparison, highly profitable companies in sectors such as high tech routinely invest to improve performance. Working in the privacy of their laboratories, they are free to experiment and fail with abandon.



WHAT CAN BE DONE TO STOP THE INSANITY?

The best infrastructure-asset owners view their supply chain as a strategic partnership. They enter long-term, multi-project relationships when appropriate, and know enough to manage the critical matters over which they have control and influence. After that, they get out of the way.

This happens all too rarely. Yet, if the root cause of the insanity in large-scale capital projects is the ineffective interaction between owners and contractors, it would be logical to conclude that any intervention that enhances financial outcome should be embraced.

We have identified three approaches that provide such an intervention.

1. Relational contracting

There is clear evidence that better program and budget outcomes can be achieved by pooling delivery risk and sharing profits among the owner, engineer, and constructor. Crucially, by procuring in this way financial returns for the engineer and EPC firm can be increased.

Effective relational contracts often

also establish separate pools of money specifically to pilot new ideas across multiple team members. For example, Sutter Health in Northern California has a \$7 billion capital plan and more than 255 active projects. Unreliable outcomes prompted the introduction of integrated forms of agreement, integrated project delivery, and lean construction.

As a result, Sutter delivered 15 capital projects with a value of \$1.5 billion within schedule and budget.

2. Creative use of insurance

When owners require the general contractor to take sub-trade insurance, a large repayable premium is put at risk. This increased exposure typically prompts greater supply-chain oversight and engagement, consequently driving better performance.

Fewer claims against the insurance policy mean that a greater proportion of the premium can be returned to the general contractor to be taken as profit or distributed to the supply chain.

Some general contractors now expressly offer a performance bonus if the sub-trades work to avoid claims.

In response, insurance broker Aon has introduced subcontractor default insurance, a structure that better aligns the risks of the insurer with those of the general contractor. Under such agreements, the contractor carries a significant retention, which is most often funded via a retrospective agreement with the insurer or via a captive. The retention is exposed in the event of a claim. However, if there is no claim, the funded retention is returned to the general contractor and is often used to incentivize adoption of best practices within the organization.

According to the company, the use of these structures has significantly improved operational practices, particularly in supply-chain prequalification, procurement, and management. Aon is now working with insurance carriers to design similar retention structures to drive improvement in risk management and operational practices throughout all aspects of the construction process.

3. Project production management system

EPC firms are increasingly tempted to build large inventories of materials on site to reduce delays. However, this approach ties up capital in the mistaken belief that high productivity offsets any additional cost.

In reality, it does little to drive efficiency. Instead businesses focus disproportionately on issues such as measures of work progress and the variability of working capital rather than on the wider issues that affect delivery.

Using a true production-management system with lean construction tools enables decisions to be made collaboratively across the project. This shifts the focus on

granular issues such as working capital and variability out of the system, speeding up execution and boosting profitability.

For example, Katerra has recently launched a global sourcing model to help the supply chain react to potential disruptions and market dynamics using predictive replenishment of supplies informed by Internet of Things–connected inventories.



Breaking from the insanity of repeating unreliable project-delivery practices is crucial if the sector is to raise productivity and deliver projects on time and to budget. Yet right now it is clear that we do not have the incentives or structures in place to drive this change.

But change is possible. The solutions highlighted here provide a clear route to fixing the often strained relationship between owners and the supply chain and to driving increased profitability across the sector.

These solutions provide a route toward a new environment in which owners and EPC businesses are willing to and financially capable of investing in innovative ideas that stop the insanity and transform major project delivery.

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