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Managing offshore projects requires re-thinking the process

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NOTE: This is the first of a series of articles on consideration of lessons learned in managing offshore construction and installation projects. Succeeding articles will address each of the major issues raised in this part.

The numbers are not pretty. Sure, we are all doing a better job of planning and executing our projects. We've got stage-gate processes for "front end loading." We do "value improving practices," and we work on team effectiveness. Sometimes we do these things well; sometimes we do them just to be able to say we have. Sometimes we feel pretty good about the way we manage projects. Until we look at the numbers.

Research conducted by Independent Project Analysis (OTC General Session, May 7, 2002, data presented by William Barger of Independent Project Analysis Inc.) from 150 recent international offshore development projects concluded that not one of these projects met its objectives in all of the three critical project areas: drilling, reservoir, and facilities. Although there have been some improvements over the past decade, IPA's data indicates that the cost per barrel of offshore production facilities has not been significantly reduced.

Meanwhile, our offshore development projects get deeper, larger, more complex, and certainly more costly. A lot more is at stake – for owners, operators, and everyone in the contractor community. The challenges are formidable.

The challenges for owner/operators include how to:

- Ensure a satisfactory return on the investment for your company and for all the project participants
- Reconcile the different objectives and tolerance for risk that each of the partners may have
- Staff owner project teams when you do not have enough in-house resources.

The challenges for non-operator owners are how to:

- Make sure your investment in the project achieves the required return
- Manage your risks when you are not managing the project
- Actively participate in decision-making without holding up the project.

For contractors, the challenges include how to:

- Manage the substantial risk associated with large projects
- Define and perform new responsibilities in support of owners during the early stages of a project
- Manage the increased resource requirements associated with large offshore projects.

The answers are found in a simple checklist of six critical steps to ensure a successful offshore project. These steps are derived from lessons learned from working with offshore project teams worldwide. They are:

- Set the strategy
- Look for leverage
- Value value (over price)
- Assure alignment
- Recognize the risks
- Protect the process.

Set the strategy

Strategy is the result of the major decisions made early in the project. It drives all subsequent plans, decisions, and actions. When we set the project strategy we determine:

- The business goals and project objectives that determine success
- The stages and decision gates the project must pass
- How we will organize to do the work in each stage
- What contracting strategy best meets the project objectives
- What issues have to be worked
- How we will manage key control variables such as safety, environmental, cost, schedule, quality, and risk
- How we will manage key project functions such as engineering, procurement, construction/fabrication, installation, and hookup and commissioning.

A project strategy is usually documented in the project execution plan. The optimal project strategy is seldom obvious, yet we often decide what we think is the best strategy to plan and execute the work. We base these decisions on experience with past projects, which may not have had the size, complexity, and risks of the project at hand. We may begrudge the time required to get everyone together to develop the strategy and document it in a project execution plan. When there is no clear strategy and direction, and no project execution plan, the inefficiencies and misalignments that result can jeopardize project success. We must take the time and make the effort to set the strategy and develop the project execution plan.

Look for leverage

Leveraging is optimizing the use of company resources to maximize our organizational effectiveness in meeting business goals and project objectives. In today's lean organizations, everyone wants to make effective use of leveraging, since project resources are inevitably limited. Leveraging requires us to decide:

- What are the project functions and tasks for which someone from our organization can truly add value?
- What are the functions and tasks that can be performed most effectively by others?
- What do we have to do to manage critical functions and tasks we have

delegated to others?

The pressure to downsize, particularly in owner companies, has made leveraging a popular idea. When done correctly, leveraging provides the perfect solution for an owner/operator managing a big project with limited resources. As a result, we may assume that critical tasks can be left to others who, though they may be dedicated and competent, are not in the best position to perform them. In some cases, they may not even be aware that these tasks are expected of them. As a result, critical tasks or functions may not be performed properly, and project objectives are jeopardized.

We must leverage with care. We must be clear about which responsibilities we should keep and which are appropriate to delegate to others.

Value value (over price)

We use the word "value" a lot these days. We use "value-improving practices." We talk about the "value chain." And of course, we always try to "add value." What do we really mean by value, and why is it so important?

Value is a tremendously useful concept that links the key project control variables of cost, time, and quality to the overall business objective of profitability. We can define a project as the process by which we convert an opportunity into an asset. That asset will have a value to its owners, and our project plans, decisions, and actions should always be focused on maximizing that value. We maximize asset value when we can determine:

- The optimum balance between project cost and operating cost
- The optimum balance between cost and performance
- What quality is, how we measure it, and how much we are willing to pay for it
- How much it is worth to us to improve the schedule.

Although the idea of maximizing value is appealing in an abstract way, we seem to lack a clear idea of how to do it in the day-to-day conduct of project activities. We tend to revert to our comfort zone, behaviors centered on minimizing cost, even though the relationship between value and cost is not at all obvious. For example:

- Reducing project cost can add value if quality remains constant, but reducing project cost can also reduce value if quality suffers. (Lower capital cost can easily result in higher operating cost.)
- Increasing project cost can add value if quality is increased (higher capital cost resulting in lower operating cost), but increasing project cost can also reduce value if quality remains constant.

Unfortunately, it is much easier to measure the cost performance of project managers and teams than it is to measure how well they are maximizing value. And it is easier to select a contractor or supplier based on their expected cost rather than on how well they might contribute to asset value.

We must be serious about maximizing value. We need to do a great deal more to incorporate value considerations into design and purchasing decisions, as well as into our metrics for team performance.

Assure alignment

Alignment occurs when all project participants are equally committed to the same objectives and to the plan for achieving them. When the wide variety of project participants is considered (i.e., owner/operator, other owners, national organizations, contractors) true alignment often seems impossible. For example:

- Project owners often include national oil companies whose goals may include socio-economic objectives not shared by international, publicly traded owner companies
- An independent investing in the project may have an entirely different risk profile than that of a super-major
- An owner/operator's priorities and risk allocations may be quite different from that of the contractors doing the work.

A project is nothing more than people doing work. Since all those people work for one organization or another, alignment requires both people and organizations to share common goals and know what to expect of each other. Alignment can be achieved if the appropriate effort is made.

We've all worked on projects where most of the energy and talent was focused on dealing with the problems of misalignment. Whether it is an

operator/contractor relationship based on mistrust and lack of respect, owner/partners divided on key decisions, or simply a project team that doesn't work effectively, misalignment will diminish project results.

There are many ways to achieve alignment – but they all require:

- Defining clear expectations
- Clarifying specific roles and responsibilities
- Effectively managing issues.

All of this, of course, takes effort. We must recognize the importance of aligning the project partners and contractors early in the project, and maintaining that alignment until the project objectives have been achieved.

Recognize the risks

Project risks in this context refer to the probability that the cost, schedule, safety, environmental, and quality objectives will not be achieved. Effective management and mitigation of these risks begins with the recognition of the importance and discipline of project risk management. Project risk management has four components:

- Risk identification
- Risk assessment
- Risk analysis
- Risk mitigation.

These techniques are applicable in any project stage. The benefits of project risk management include:

- Reduced risk of cost and schedule overrun
- Lower costs associated with reduced levels of contingency
- Improved decision-making.

The significant risks associated with deepwater developments make project risk management more relevant than ever.

As project people, we like to have confidence and optimism that we can overcome any project challenge. We want to be the champion of our project, to get it funded and drive it to a successful result. Of course, management who

feel much the same usually rewards this mind-set. However, sometimes the activities associated with project risk management seem to contradict this. There can be a concern that we might appear to be too pessimistic, and that this pessimism could give us cost and schedule numbers that might kill the project. Sometimes, if we don't like the results, we question whether risk management methods are valid.

As a result, projects can suffer from incorrect decisions, unrealistic cost and schedule expectations, and from the impact of unmitigated risks. We must be realistic about the risks our projects face and be willing to make the effort to properly apply project risk management techniques.

Protect the process

Many owners have discovered the benefits of a project management process to ensure that the right things are done during the early stages of a project when the ability to influence success is greatest. The project management process defines project stages, which are separated by decision points often called "gates." A well known example is the Chevron process known as the Chevron Project Development and Execution Process.

A stage-gate project management process defines:

- What should happen in each stage
- How responsibilities are allocated
- The methods, systems, and tools to be used.

Successful implementers of PM processes report significant benefits including:

- Improved decision-making
- A consistent approach across all projects
- Assurance that a project is well-defined at the time full funding is granted
- Improved communication about project plans and status
- basis for continuous improvement of project performance.

In spite of the importance and obvious benefits of stage-gate project management processes, many project managers and teams are ambivalent about their value. A stage-gate process is often seen as requiring additional

work and that detracts from progress.

Is the stage-gate process a philosophy that allows broad interpretation of how it should be applied, or is it a procedure that places fixed requirements on all projects? Project teams are often confused on this point, and, as a result, may not apply the process effectively. The result is that the project loses the benefits the process can provide.

Summary

There is a clear theme running through the lessons learned for all six success factors. They all require commitment, leadership, and significant effort. So it takes a leap of faith that our effort will, in fact, be rewarded. For this to happen, they have to be applied efficiently, so as to minimize the time required by the project team, yet effectively, so that real benefits are achieved.

About the author

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