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How to Size the Owner Team on a Large Industrial Project

Many owners are not used to develop and execute large industrial projects and tend to struggle when it comes to sizing the owner team, which includes all personnel in charge of leading and coordinating the project on behalf of the owner. In general, the size and associated cost tend to be heavily underestimated. In this White Paper we provide some general benchmarks about owner project team sizing, which can be used to challenge proposed owner organisations, and overall Capital Expenditure (Capex) estimates.

What does the owner team benchmark include?

Owner roles to be covered

The size of owner teams is too often underestimated. They include the following functions and roles:

- Owner-specific project management roles, including objectives setting, financing, permitting, business planning, scope, management.
 - planning, scope management, interface with other site activities, stakeholders management etc.
- Operations & maintenance readiness and interface
- Overall control and coordination of the project, including engineering, procurement (pre-award and post-award), quality control, interface management, construction management, and coordination of the various contractors involved. This also includes contract management as required.

Who exercises the owner roles?

Some of this role may be contracted to one or several contractors specialised in supporting owners by providing competent resources. Some of the project coordination cost may even be transferred to a main contractor that takes a coordination and interface management role for part of the scope for example as a fully packaged EPC (Engineering – Procurement – Construction) contractor.

Still, the owner needs to retain a significant number of internal resources for some of the roles which cannot easily be delegated because of the loyalty required from the personnel exercising these roles, or simply because having access to internal owner networks, resources and experience is paramount (example of operations readiness and interfaces with other facilities on site).

In all cases, for maximum effectiveness, it is highly recommended to have an integrated project management team at owner level including internal and external resources.

What should be the size of the owner team?

Development phase

During development phase (which should represent at least around 5% of the total Capex), the proportion of

owner team functions is very significant, only specific engineering or site investigation studies will be contracted if such resources are not available internally. From almost 100% of owner resources during scoping, the proportion may decrease to around 30% during detailed feasibility study due to the involvement of specialised design contractors, however, the size of the owner team in absolute terms will tend to increase as project definition

progresses, involving all required disciplines in an integrated manner. It anyway needs to remain quite significant because of the investments required to prepare for the execution phase in terms of contracting, project control and organisation setup. The

importance of constructability, operability and maintainability will also require owner resources to be mobilised.

The size of the owner team is too often underestimated and therefore forgotten in Capex estimates.

Execution phase

Benchmarks may vary between industries. On average we estimate that 5-7% of the Capex should be devoted to owner-level functions and coordination. It would be a bit less at the start of the project (engineering and procurement phases), and more during construction to cater for the more numerous quality control and construction coordination personnel required. The progressive mobilisation of the operations & maintenance team will also weigh more at the end of the project.

This benchmark will tend to be higher for brownfield projects to cater for site coordination and interfaces, and to be lower in the case of greenfield project with mature technology and a single EPC contractor. Still, a minimum coordination and supervision from the owner will always remain required, not forgetting the importance of operational readiness and early mobilisation of the future operations & maintenance team.

Feedback from our experience on common issues in owner team sizing

Missing owner costs in Capex

Owners with limited experience in large Capex projects, typically industrial owners operating a legacy plant and having only performed small maintenance and replacement Capex in the last few years, will tend to overlook the need for a strong owner coordination.

It is thus quite often that during project reviews, we observe that this line has been forgotten in the Capex estimate, immediately requiring additional funds in the order of 5-7% additional.

Moving to a small package contracting strategy forgetting the coordination costs

Too often during development stages, owners find that the Capex is too high and then tend to implement contractual strategies breaking down the facility in smaller packages hoping to reduce the overall cost. By doing this,

the cost of coordination and interface risks evaporates resulting in a apparent reduced Capex. This is unfortunately an illusion: an EPC contractor will include coordination costs and interface risks in its quote. When the contracting strategy involves breaking down the scope in smaller packages, these costs and risks need to be taken by the owner and

included in the sizing of the team and its Capex estimate. This additional coordination effort is too often vastly underestimated leading to inadequate mobilisation of resources at owner level.

It may be that in certain circumstances, a smaller packaging strategy will be better and offer better control especially if certain contractors lack capability to take on large packages.

Difficulties in mobilising and integrating the owner team for owners that rarely execute large industrial projects

In circumstances where the owner does not often execute large industrial projects, competent internal resources for owner project management will not be available in sufficient numbers, and it will be required to either hire competent individual contractors, or contract with a contractor providing owner assistance services. One of the issues is then to align interests towards successful completion of the project. An integrated team must be setup with the right level of collaboration between owner personnel (operations, business...) and specialised project resources, which requires a continuous investment and leadership.

Slashing owner team costs in budget reviews

Owner team costs are often the easiest to adjust, unlike costs based on proposals and estimates from suppliers and contractors. Consequently, they are often the first to get slashed during Capex estimate reviews it appears important to minimise the cost for project approval.

This is obviously a mistake as an experienced project director will often reinstate the missing owner team members and associated costs in the first days of the project.

Summary

It is highly recommended

to have an integrated

project management team

at owner level including

internal and external

resources.

The size of the owner team is too often underestimated and therefore forgotten in Capex estimates. The owner has many important functions to cover in an industrial project

that needs to deliver a facility that can ramp-up quickly, be operable and be fully integrated in its industrial process. In addition, the effort required for project coordination is too often underestimated, whether this function is performed by the owner itself or delegated to a contractor for an integrated scope.

We believe that an investment in a strong owner team definitely has a very significant return on investment. Unfortunately, it is too often the first budget item to be slashed in Capex reviews. The benchmarks provided in this White Paper, which we use during our reviews, should provide a useful reference to all owners involved in a large Capex project.

Read the Industrial Projects Practical Owner Guide

Available on all e-bookstores such as <u>Amazon.com</u>, <u>amazon.co.uk</u> and on <u>Kindle</u>





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