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Why the Owner Always Takes the Most Risk in an Industrial Project

During our work with project owners and financiers, particularly those that have a limited experience and low maturity in terms of project management, we have realised that they don't always understand their actual risk associated with industrial projects. Moreover, they often live under the delusion of having transferred their risk to a turn-key contractor.

In this White Paper we re-establish that most of the risk always lies on the owner side, and therefore that it is its own responsibility to setup an adequate organisation to manage this risk proactively.

Introduction on project risk for an owner or financier

Investing in an industrial project is fraught with risk. There are of course uncertainties about the market and in general, about what the world will look like when the project will finally be completed and ready for operation. Those uncertainties will generally be managed by the project governance or the wider owner organisation. This proactive management can include transferring part of the risk, for example through fixed price product buying contracts by future clients (this is a common practice for gas development with long term gas buying contracts signed before starting the actual execution phase of the new development).

We will focus here on the project implementation risks for the owner, which are quite substantial in themselves, may affect the project baseline and must be managed by the project. The terminology 'risk' will in this White Paper be restricted to this definition.

Ideally the owner would hope to transfer those risks as much as possible to other parties. During project execution, those parties are mainly contractors.

Owners can only transfer to a contractor a fraction of the risk they are actually taking

In general, risk should only be sustainably transferred to another party if that party is much more competent or capable in addressing the risk. In reality, due to competitive pressures or market habits, risk can get transferred and accepted by contractors that may not be much more able to manage it than the owner.

When the parties to which the risks are transferred are contractors, they will only be able to bear the risks to a limited extent which is much less than the impact of the risk on the owner. Therefore, risk transfers only work when the risk remains limited but always fail when it grows beyond a certain proportion. Even when the risk has been accepted contractually by the contractor, if such a risk were to occur, the contractor could potentially go bankrupt or be forced to default so as to limit the exposure to the cap. In either case, the owner would have to change contractor, incur substantial delays, potential quality issues and substantial costs.

Contractors will thus almost never accept limits of liabilities beyond 10 or 20% of the contract value because any other behaviour would put their entire organisation at risk from the failure of a single project. This position is quite reasonable from

their perspective. Contractors are generally much smaller, and less financially solid organisations than owners.

This fraction of the contractor's contract value is generally much less (often by an order of magnitude) than the actual impact of a performance issue or a delay to the owner. Often the facility revenue or operation cost is much higher in production than the value of the asset, and sometimes dramatically so. Therefore, lost time on production because of delays, or loss of market opportunities, are much larger than the contractor liability cap.

Performance guarantees have also limited reach; while it may create a penalty on the turn-key contractor that has built the facility, the contractor liability cap will still apply. While the impact on the owner profitability will be affected over the entire facility lifecycle, the contractor liability in case of poor performance will only be a

fraction of the actual impact on the owner's business.

This situation has interesting consequences. For example, in case of delay, liquidated damages (LDs) are often enforced on the contractors which is a certain value per day of delay, capped to a percentage of the contract value, often 10%. The value per day will generally be quite lower than the actual detriment to the owner, not counting its running costs for its operation teams etc. Typically, the LD value cap is reached after 1 to 3-month delay. The incentive for the contractor to avoid LDs is only valid if the delay is not expected to exceed the maximum period of the liquidated damages. Beyond the liquidated damages cap, all odds change, and the contractor is generally in a strong negotiation position because of the impact on the owner of any further delay.

Therefore, even when the owner believes that it has managed to transfer risks to a competent contractor, in reality only a small part of its risk is covered; and often this small protection can't even be used because of the limited cap on this protection.

How to deal with the risk transfer illusion

Although the owner can only transfer to contractor a very small proportion of the actual risk it takes, owners and financiers too often live under the illusion (or delusion) of having transferred their risk to a turn-key contractor and they tend to minimise involvement into risk management activities. This is particularly the case of financiers with limited technical knowledge that often live under the delusion of risk transfer by requiring all contracts to be turn-key lump sum contracts. Lump sum contracts don't fare better in terms of project execution performance than other contract forms; any change is an opportunity for a claim from the contractor that will inflate cost; and contractors may fall prey to the temptation of diminishing quality to save costs which may affect the long-term reliability and operability of the facility if not

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properly monitored by the owner during project execution. Therefore, turn-key lump-sum contracts are not a panacea, and they are actually only usable for mature technology and well-known project circumstances.

The importance of proper project risk management for the owner

As a first priority, proper management of safety risk is an essential pre-requisite that relates to the owner reputation and liability and need to be an absolute priority.

It is important to emphasize that proper conventional risk management is essential for owners. It is the only way to increase consciousness on the actual level of risk and how it will effectively be managed.

Risk management needs to be systemic and applied to all project aspects. It needs to be implemented early during project definition where uncertainties during scoping and preliminary feasibility will progressively transform into risks. Proper practices of qualitative risk management (risk register and associated discussions - refer to our [Handbook on Risk Management](#)) are essential to create the adequate conversations. Those will ultimately lead to significantly decreasing the overall risk for the owner. It is essential that from the onset of project definition, the project risk approach covers all risks possibly affecting the project and not just technical and process risks, such as stakeholder, supplier, future client risks.

In addition, quantitative risk management is often useful for scenario assessment and contingency calculation, including both cost and schedule statistical analysis. Those approaches must include schedule risk analysis which is always very instructive.

One important aspect which is too often overlooked is that mitigation actions decided during the project risk management process must be inserted in the project scope, schedule and budget. This is the condition for them to really be implemented.

Project risk management is similar but quite different in its implementation from the usual corporate risk management process. In case the owner has no experience in the matter it will be beneficial to hire a project risk specialist to setup and possibly run this process throughout the project definition and implementation phases. Often some interface must be built between the project risk management process and the corporate risk management process, which may be driven by market and regulatory requirements.

Accounting for complexity

A specific aspect is also the need to understand the complexity of the project. Increased complexity will make the outcome of the project more unpredictable; according to certain authors there is even a complexity threshold or tipping point beyond which it is not advised to go. Therefore, in all circumstances it is essential to keep complexity as much as possible in check.


To assess this aspect, it is important to consider the overall project setup including main stakeholders, project governance and the contracting strategy. This systemic view will often provide deep insights into possible issues that may arise during project execution in particular if unpredicted events happen that require flexibility and adaptation.

Summary

Ideally, the owner would hope to transfer risks that can be controlled as much as possible to other parties. Unfortunately, the owner will in all cases continue to bear a large majority of the risks associated with the project. Therefore, the owner must implement a thorough risk management process covering all types of risk from its perspective. This requires resources and specialist personnel, since it remains deeply necessary to really understand the amount of risk taken and to monitor and manage it appropriately.

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