



White Paper 2014-15

How to Run Forensic Analysis of Project Cost Control

It is essential to understand surprises in Project Forecast results. While the causes for such surprises are often attributed by the Project team to external factors, quite regularly, internal control issues contribute to unexpected variances. This White Paper describes the basis of a framework to implement a structured approach to forensic analysis of Project Cost Control.

Investigating Surprises

Any surprise that cannot be fully and directly explained by a clear and unambiguous external event is suspect to be caused by internal controls issue. The measure of quality of Project Controls in general and Cost Control in particular, is to prevent these internal surprises. It thus represents a failure of these processes.

Investigating surprises in Actual Cost or Forecast often requires going beyond the immediate cause mentioned by the project team, often an external excuse. In-depth analysis of the root cause of the surprise is required to fully understand the issue at stake. Surprises are best investigated by people outside the Project team that can have an unbiased view of the events that happened. Situations which should trigger a review also include:

- Unexpected departure from the Project Manager or Project Controls Manager,
- Project obviously late and overrunning without clear impact on the Cost Forecast,
- Project actual cash flow significantly discrepant with the reported Cost results.

Issues related to reviews in self-denial situations

Project Cost Control issues often appear in situations where the organization, or part of the organization, is in self-denial. This makes the reviews difficult to implement. Symptoms of such organizations include:

- Lower ranking project personnel in open disagreement with the official representation of the project results,
- Discrepancy between project representation and situation in the field,
- Strong *'esprit de corps'* at management level i.e. devotion to the honour of the group, with a group that is homogeneous in profile and origin

Failure Modes of Project Cost Control

The framework we propose follows the “Key Navigation Questions” (ref [White Paper 2014-14 ‘Why the Four Key Navigation Questions Are So Essential for Project Management’](#)):

- Level 1 – Do we know where we are? Does Cost Control reflect accurately Committed and Actual costs?
- Level 2 – Do we know where are we heading based on the latest knowledge if we continue

according to the current trends? Does Cost Control produce a Forecast for the project completion that is relevant and resilient?

- Level 3 – Can we figure out what needs to be done to come back on track? – is Cost Control (and Project Controls) able to run scenario analysis, root cause analysis?

In our consulting experience about half of the organizations will fail in a way in the level 1 checks, and most of the other organizations will fail some level 2 checks.

Level 1 checks – does the Project know where it is?

The main questions to investigate include:

- Are Actuals really actual cost to date or only invoiced amounts?
- Are accruals computed every month and are they always positive (except for advance payments)?
- Are accruals reasonable in quantity?
- Are Commitments properly recorded?
- Is the cost Percentage Of Completion consistent compared to the physical progress?
- Is the cost breakdown system effectively implemented in all relevant systems and reconciliation between Cost Control and Accounting Effective?

Most critical areas (that can be targeted for sampling) for Cost Control in most EPC projects include:

- Engineering: commitments and billings from remote offices, and subcontractors,
- Procurement: quantities and receipt process,
- Subcontracts for services, in particular for logistics and fabrication,
- Construction: key construction assets mobilization and utilization,
- Commissioning and testing.

Level 2 checks – does the Project know where it is going?

Once it is ascertained that the current actual position is known accurately, the next step is to test the adequacy of the forecasting process – both for the Estimate at Completion (EAC) and the Percentage of Completion forecasts for the relevant upcoming accounting periods. This check is slightly less straightforward because forecasting is sometimes as much an art than a science; still, basic assumptions must always be documented and the forecast must be consistent.

Many project-driven organizations fail at level 1 checks and most fail at some level 2 checks

The general rule about appropriate forecasting is that unexpected cost impacts must be identified and recognized early, and degradations must be recognized early in full, not in progressive chunks that would demonstrate poor control (or lack of candid reporting of expected events).

Investigating surprises often means searching beyond external excuses in the quality of the Cost Control process

Contrary to level 1 checks, the level 2 review requires significant project experience and specific business understanding of the particular business branch.

The main questions to investigate include:

- Has the forecast been effectively updated to reflect major changes in project execution?
- Are consequential variances properly identified and reflected?
- Are the allowances (if any) clearly identified in the Forecast? Are they sufficient/ justified?
- Are there patterns in the variances identified repeatedly in the last months? Have they been analysed for root causes?
- In engineering, is there substantial cost being spent beyond 100% physical progress recognition? How is that addressed in the forecast?
- Is any carry-over work between project phases considered in the forecast? Are the assumptions realistic?
- Based on the normal risk profile of similar projects, is the contingency level sufficient?
- Is the time phasing prudent regarding effective expenditure before the end of the accounting period?

Trending analysis and historical pattern analysis of past variances are particularly useful because surprises often result from the ongoing accumulation of small variances that had not been identified as being produced by an underlying cause that pervades a large part of the project execution and finally cause a large discrepancy in the forecast.

Level 3 checks – can the Project devise the necessary changes of course?

Provided it is proven that the Cost Control process produces a robust Forecast and operates properly at level 2, checks that it can properly support decision-making will be simply focused on checking whether there has been good quality scenario exercises developed by Cost Control at the request of project management.

Even when there is evidence of such scenario analysis, they need to be investigated further. Sometimes, scenario analyses are being run for convenience, to prove the point of the Project Manager or of its management, and are not based on realistic data.

Summary

Project Value Delivery proposes a framework for Cost Control Forensics that is based on levels of maturity. The full detail of this framework, together with relevant checklists, is available in Chapter 10 of our Practical Cost Control Handbook.

Cost Control forensics sometimes requires significant persistence to really understand the underlying issues. Organizational psychology needs to be assessed for potential for denial and self-delusion. It can be difficult to review independently the Cost Control of a Project in particular when the organization is in self-denial. High level management support is essential in these instances for successful reviews to unfold.

If the Cost Control process has been implemented poorly it can be a major endeavour to reconstitute the actual spent and forecast of a project, and it can have a significant impact on the organization's financial results. The confidence of the market in the ability of company management to control its operations could also be jeopardized, with direct implications for the share price. It is thus essential to implement these reviews early and decisively, with reviews undertaken by personnel experienced in Project Controls knowing the particular business and that act independently of the Project.



Find all these principles of Project Cost Control exposed in a comprehensive manner in our Handbook (2nd edition), [Practical Project Cost Control for Project Managers](#)

(available in [Paperback](#) and [Kindle](#) versions!)

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