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Listen to the People!
The Real Health Check of Updating Cost Models and Schedules of Large, Complex Projects

One of the basic tenets of project management is to have at all times a reliable view of the current situation – a reliable project cost model and schedule update. Alas, we realize in our consulting work that it is not so easy to do in particular for large, complex projects – and this makes any subsequent decision-making process highly unreliable. What are the basic health recommendations that need to be followed for getting a truthful picture of the project condition?

Updating the project situation is about mobilizing the common knowledge of the team

Updating a project schedule and cost forecast is not a solitary exercise; it requires to mobilize the knowledge of the project, which is spread among its members. Because large, complex projects involve large teams that can be spread over several locations it is not necessarily an easy thing to do.

The difficulty is increased by the fact that most experienced planners are introverts that do not necessarily have a natural tendency to be seeking information in an assertive manner about the latest status and perception of progress from the project team members.

Still the underlying process is one of the rare processes that aims at collecting information spread in the organization, structure it in a consistent way and roll it up to give a clear information about the project status.

The distinction between precision and accuracy: seek accuracy first

Before we dwell into the failure modes and root causes of unreliable snapshots of the current project situation, let's remind ourselves of the important distinction between accuracy and precision:

- Accuracy is how close a measurement is to the actual value;
- Precision is how consistent the measurement is if repeated many times (but that does not mean that it is accurate with regard to the actual value).

A measurement system can be accurate and not precise, precise but not accurate, both or none.

As we measure the current situation of the project, we mainly aim at accuracy. While precision would be a bonus, we won't repeat the measurement too many times for each update; at the next update the error can be expected to be randomly moving, and average out eventually. In addition, total precision is not necessary in the dynamic context of a project. So, when it comes to project snapshots, we seek accuracy first. Precision is not so important – that's why it is common practice to extrapolate progress for the last few days of the reporting period. Any imprecision will be compensated in next month's update.

Cost model and schedule update failure modes

What are then the failure modes of this information collection process? We seek a complete, timely, accurate information covering all project activities. Failure modes can thus be classified in the following 4 main categories (which can thereafter combine):

- Information is complete and accurate but not timely (delayed / obsolete),
- Information is complete and current but not accurate,
- Information is accurate and current but not complete,
- Accurate, current and complete information is available somewhere in the project but not transmitted or only transmitted with distortion to the relevant compiler.

Cost model and schedule update failure root causes

Quite logically, the root causes of these failure modes are the following:

- There is a (systematic) delay in the information collection process,
- There is a (systematic) bias in the information measurement process,
- The information measurement process does not cover all the relevant activities,
- Information does not flow to the planner / cost controller.

Some of these root causes might overlap on part of the project activities. Common examples of these three root causes are:

- The last information available on a subcontractor's progress is systematically their progress as it was 2 months ago,
- Documentation progress measurement is based on engineer's declaration and they tend to be systematically optimistic about the completion status of their documents; alternatively people don't want to pain the project manager and do

> **The main stumbling block for large, complex projects is the information collection process**

not report the actual status of the project versus the plan (very common issue in communist countries!),

- The project schedule is so complicated and large that it is physically impossible for the planning team to review progress and forecast for all activities for each update cycle,
- Planners / cost controllers are not proactive in ensuring that they capture all available information at its (reliable) source.

The main failure cause for schedule and cost model updates of large projects: an ineffective information collection process

While delays in the progress information and bias in the measurement process are classically addressed by extrapolation and reliance on actual physical progress measures, the main stumbling block for large, complex projects seems to be the information collection process, with a classical double whammy:

- Too large and complicated schedule that is a pain to update;
- As a consequence, not enough time to seek and check the most difficult information at its source – namely, the people in the team in charge of this particular activity.

The challenge of formalizing the team's informal knowledge

There have been several cases when upon intervening on a project we have found substantial differences between the team informal knowledge (as retrieved by listening to project team members) and the formal representation of the project status and forecast in the schedule.

Faced by a tremendous update task, under time pressure, people will rather work on the easy (update from available systems) rather than the more difficult (understand actual progress from interviews and site appraisals). And there come situations where the really valuable information is not sought and what the schedule of the project reflects has got only a distant relationship with the reality in the field.

What needs to be done to have a reliable project snapshot

It is not sustainable to drive a project with an inaccurate schedule and cost model. Project managers need to be particularly watchful to avoid this to happen. Here are some guidelines:

- Limit the complication and size of project schedules to keep them manageable (think how many activities a planner can reasonably update in a day if the full work of listening to the people in charge is effectively done)
- Make sure that all relevant parts of the project team are actively involved in the update sessions even by remote teleconference or other ways
- Ensure that there are real conversations ongoing on the actual status and forecast of activity, and not just updates of documents or tables. The project controls team needs to get a feel of the situation. This might require the involvement of the Project Controls Manager to help having candid conversations about the actual condition of segments of the project, and even travels on site to gauge the actual progress with an independent eye.

Reality is sometimes uneasy; but it is much better to know the reality, and structure this knowledge so as to be able to act on it.

Conclusion: Listen to your people – make sure to transform informal knowledge into formal knowledge

Being able to transform the informal knowledge spread inside the project team is a crucial process capability for successful large, complex projects. The successful project team will make sure it works perfectly – and will test it from time to time. A sufficiently detailed schedule and cost model that are at the same time not overly complicated is a key; as well as the capability of the project controls organization to seek people, get them to talk, and listen to them. Reality is sometimes uneasy; but it is much better to know the reality, and structure this knowledge so as to be able to act on it.
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