

# Let's pull together

In his second article on project controls, Nick Curran suggests how project controls should be implemented and performed from a contractor's perspective

We do not give our QSs and PMs adequate tools to control projects – estimates are in one format, plans in another with costs collected in another altogether. We also lack the methods or systems to bring these three fundamentals together.

There are attempts to do this by reanalysing cost data in spreadsheets or hastily developed databases. However, elemental analysis and cost head cannot be pulled together retrospectively without masses of manual manipulation and a thorough understanding of what you are trying to achieve.

The root of the problem is the evolution of IT in construction. This replaced manual processes with systems that aimed to improve efficiency in different departments – such as estimating, planning and buying – while making each department discreet. Today, the key issues are the ways that systems are implemented and users educated, how companies are tightly governed by corporate IT policies and the unreasonable expectation that IT will miraculously produce the required information.

## The key benefit is reliable, timely information to allow our PMs and QSs to make informed decisions and forecasts

The answer is to educate stakeholders and other professionals about what can be achieved with a logical and workable link between how estimates are produced and managed post contract, how time and forecast time is reflected in project plans, and the method of capturing and reporting project costs. It is crucial that these can be analysed commonly, such as in a work breakdown structure, by element or by defined project activities, e.g. earthworks, substructure, etc.

This common analysis should not be restricted by the structure of a corporate accounting system. However, when setting up the analysis it is important not to go overboard with too much detail.

The common analysis can be achieved partly through the improved use of IT and partly through sensible workable business processes in estimating, planning, valuation, procurement and costing.

Clearly, IT plays a huge part. However, it is not the total answer and it is questionable whether you need a 'fully integrated solution' from a single supplier. It is more important to know what information is required before starting; where the logical 'touch points' exist between the five core processes; and whether the IT solutions proposed can be effectively integrated.

### *Estimating and valuations*

The first stage is to produce detailed BoQ-based estimates, using resources instead of lump sum values as far as the available information will allow.

The term BoQ is used loosely here – it doesn't need to be a fully structured SMM7 or CESMM BoQ, just a quantified estimate, preferably with resources from a common library so you can summarise total quantities by resource as well as BoQ items.

The BoQ items should ideally have some kind of structure, such as elemental, and it should be possible to re-analyse the values by this as well as the total of all the items and resources used. If possible, this should bear some resemblance to the resource or commodity library within the project's costing and procurement system allowing comparisons between estimate and actual. The closer the tie up, the more detailed the comparison could be.

It must be possible to manage the estimate as the project progresses, tracking change and recording it in a format compatible with the original estimate. In addition, it must be possible to take a snapshot value of the project against the estimate, including the earned quantity and value of all resources within the estimate items.

### *Planning*

What are so often overlooked as measures of performance are the onsite tasks, which relate to the way we actually build. The project plan captures the onsite tasks and groups them into a logical sequence, rolling them up within a structured hierarchy to the overall project level; this is a half-way house between elemental analysis and cost head. Planners work in a minute level of detail, too low a level to be trying to capture costs or analyse value but, due to the hierarchical nature of a project plan, the tasks can always be rolled up or summarised. The appropriate level for the common analysis will vary project by project but will usually be found somewhere within the project plan – whether that be at level 2, 3 or 4, with level 1 being the project as a whole and level 5 the tasks.

### *Procurement and costing*

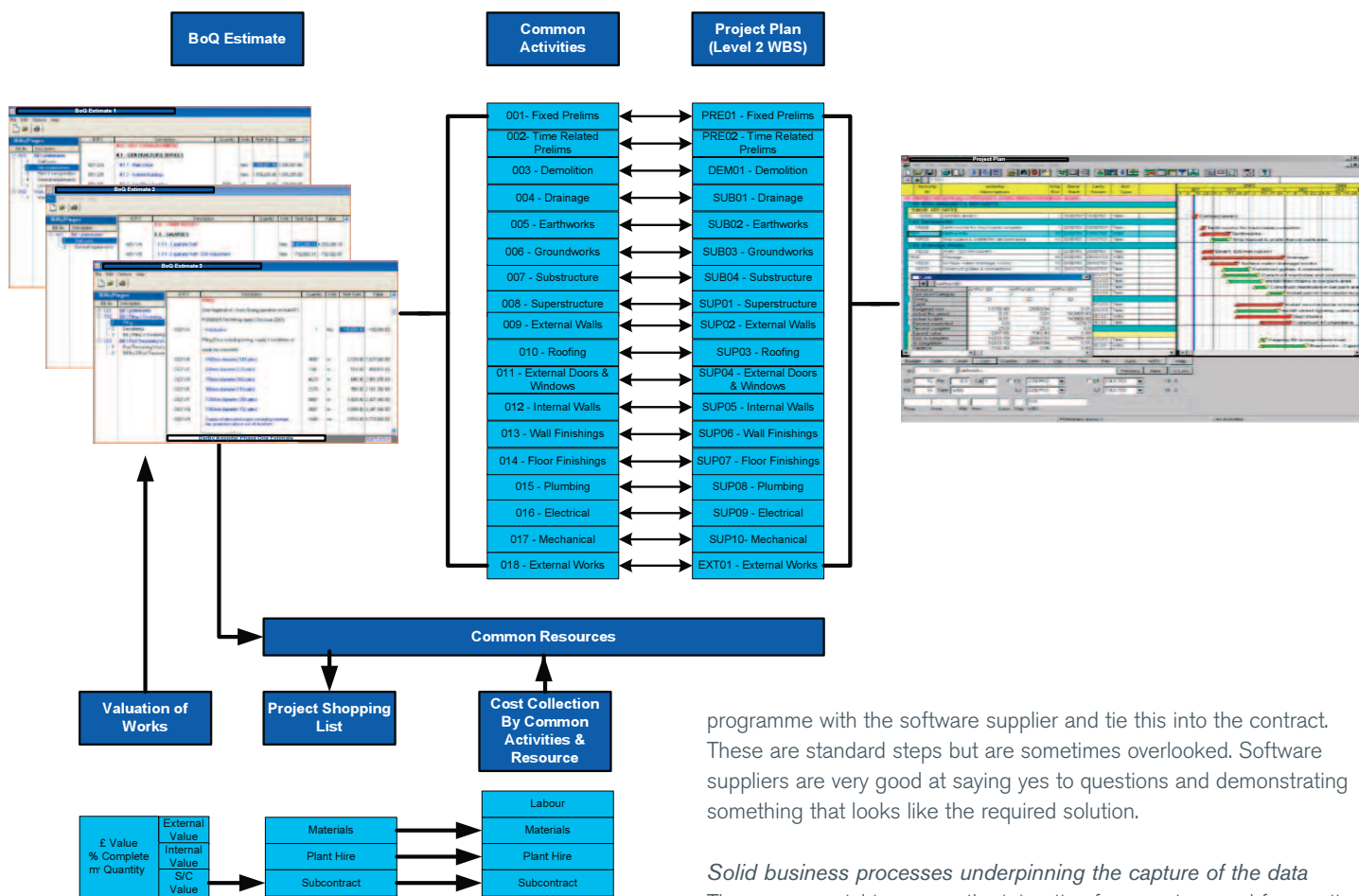
If the summary level can be set to something that is workable, then it should not beyond us or our systems (IT or other) to be able to re-analyse our estimate and actual costs to the same level as our plan summary. Figure 1 illustrates a one-to-one tie up between the common analysis and the project plan. This is not essential, but will keep things simpler.

By tying up estimating and procurement there is an immediate link between what was allowed and what is actually purchased. It is also worth remembering that most construction costs are incurred on site. Therefore, if these can be captured as they are incurred, and can be allocated to different elements, then there is no need for further later analysis.

This will at least provide commonality for the comparison of estimate, cost and time and will give those responsible for progress cost and value reporting and forecasting a chance of being accurate and able to compare 'apples with apples'.

The key benefit is reliable, timely information to allow our PMs and QSs to make informed decisions and forecasts.

Although there is more work up front, valuable time is saved during the forecasting cycle allowing expensive professionals to use their



experience and commercial acumen to accurately forecast rather than spend their time retrospectively trying to shovel cost and/or budget into common pots.

However, even after an organisation has made a decision to implement a solution allowing a common comparison, there are still a number of barriers to the success of the implementation project.

**Buy-in from top down**

Where a senior person owns or shares the vision, then the project is more likely to succeed. Absolute buy-in from all stakeholders is ideal, however we live in a real world and it is likely that there will be doubters; the lower down the chain that these occur, the less critical they are to the project's success.

**A sensible level for the common analysis**

This needs to be thoroughly thought through and stuck to; if the aim of the project is to collect too much detail, then it is doomed to failure. Each situation is different, but there is a happy medium between those who don't want to analyse costs as they are incurred and those who want to know where every nail is. Too much detail will result in inaccuracy of the allocation and will take an army to collect. Too little will not provide the analysis required.

**Software selection**

If a software solution is being selected, then determine what is needed and ensure the solution really does have the functionality required. Ensure that everything is properly demonstrated, and take up user references. Also, agree a terms of reference, specification and

programme with the software supplier and tie this into the contract. These are standard steps but are sometimes overlooked. Software suppliers are very good at saying yes to questions and demonstrating something that looks like the required solution.

**Solid business processes underpinning the capture of the data**

These are crucial to ensure the integrity of comparison and forecasting data. The processes should be suitably documented with workflows, if appropriate. With software, the business processes should tie in with its use and how the users are trained. Where discrepancies in the data occur, the sponsor of the implementation project can then use the workflows to identify where the process has not been followed and use the procedures documentation so it is corrected.

It is possible to implement effective project controls in construction, the problem is that it no longer comes naturally to the industry and there are now generations of professionals who have never worked in such an environment. Although IT often seems like the magic answer it is only a component, albeit an important one, that needs to be accompanied by common, sensible coding and a willingness to bring together the disparate departments and islands of information that exist within most construction businesses.

*The final article in this series will look at a case study of how these project controls are being implemented.*

The QS & Construction Faculty continues its development of a New Method of Measurement and the consultation draft of the new suite of rules for estimating and cost planning are now available. See page 7 for more details.

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