

Key 1: The Three Layers of Enterprise Projects

Contributed by Berthold Kastel
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A typical enterprise project consists of up to three layers. These layers may all be part of the same organization and even use the same system (SAP), or the responsibilities for them may be divided out across 3 or even more companies and systems. The three layers are:

- Enterprise (program owner);
 - General Contractor (project owner); and
 - Contractor & Material Supplier (contractor).
- Level 1 - Enterprise

On top sits what we call the "enterprise layer". This is the overall process or program owner. It typically is part of or integrates with a fully functional ERP system like SAP. Related purchasing, materials management, financial accounting, sales and production processes need to fit in with the rest of the organization.

What we experience is that SAP users that implement SAP-centric project solutions as the program owners are much more concerned about the integration with their financial systems and with setting up and working with a functional WBS system. Cost planning, cost budgeting, and financial control systems require generic estimating of resources needed and a general idea about timing, but this typically will stay on a high level. What SAP calls "logistical" functions like scheduling and resource planning and leveling are not their immediate concern. These are aspects that the project owner focuses on, though - bringing us to the next layer. Level 2 - General Contractor

The second level of enterprise project management is the concern of the project owner, whoever is responsible for the actual project delivery and day to day project controls. Here, project management is much more detail-oriented and concerned with scheduling of activities, constraints, work definition.

It is on this general contractor level where work is planned in detail, where it is scheduled, the use of resources is being optimized, progress reports allow to revise baseline schedules and provide input for estimates, and where earned value analyses are being performed. Typically project owners prefer tools that are as nimble and easy to use as possible. For many functions this translates into the use of stand-alone project management systems like Primavera or MS Project. Sometimes systems are being used in duplicate. For example, a maintenance or turnaround plan may be created in detail in SAP, just to download all its information into Primavera for scheduling.

There are different "internal customers" for this level compared to the "enterprise" level. This can and often will lead to issues. Purchasing processes and the charging of actual costs may totally be handled on the enterprise level even though they provide critical input for the project owners.

Level 3 - Contractors & Vendors

Finally, there is a whole critical set of interaction with the project that may be out of the direct control of either the program owner or project owner. Often (sub-) contractors will perform the work, sometimes even with them keeping the complete responsibility for a whole branch of hierarchically structured work breakdown structure. Likewise, suppliers may need to deliver key pieces of equipment may need to deliver semi-finished or finished products at a specific time.

In either case there will be schedules and feedback for forecasting and actual confirmations on that level that need to be considered in the master schedule. This may not be a trivial task, particularly if the program owner exerts overall project control using SAP while leaving it up to the General Contractors to use the tool of their choice. At that point three different systems and viewpoints are in play, and inefficiencies easily can compound.

In an ideal world, time planned on the enterprise level would be turned into milestones on the project level and then being translated into detailed work papers for contractors or delivery times for suppliers of equipment. In a next step then the entering of actual time by a contractor should automatically be reconciled between the SAP purchasing system and the project owner's scheduling and earned-value analysis system. No duplicate records and reconciliations should be needed.

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