Saving Priva
(and public ones t

ate Project
too!)

With capital spending now at US$11-12 trillion annually, with a growth of 10 percent or more expected in the next few years[1], it seems the lull in spending across the globe was short-lived. But as "bigger and better" becomes the new maxim, and companies are investing heavily in capital projects again, managers are facing significant challenges in keeping spending and schedule under control.

Recent studies show that 63 percent of projects are over budget and 75 percent are not meeting their schedules. There is no clear explanation as to why project control is suffering as a result of the upturn in capital spending, though we believe it is because companies have improved their project controls processes in discrete areas and have yet to achieve the synergy that is possible via integration to produce optimum results.

The project management fraternity advises the use of different structures to control the projects (and the classical triple constraint of scope, cost and time in an addition to risk, resources and quality), which has given rise to concepts such as work breakdown structure (WBS), cost breakdown structure (CBS), asset breakdown structure (ABS) and organizational breakdown structure (OBS.) The objective behind these structures is to focus the attention of the project team members on specific areas of the project and provide them with the capability and specialization to effectively manage those areas. Although effective, this siloed approach leads to disharmony within the project controls domain and results in poor project performance as described earlier.

This advancement in the approach to manage capital projects has increased the complexity and resulted in poor project performances. It has also provided an opportunity for technology to reduce this complexity by making the approach as seamless as possible.

Project control is most effective when management is based on an integrated WBS that harmonizes the dimensions for scope, time and cost. The integrated WBS represents the translation of the asset scope (the ultimate deliverable of the project) into discrete component deliverables (intermediate products required to affect the asset scope) for which work (both time and cost) can be planned and controlled effectively.

The WBS is further supplemented by the OBS, which focuses on translating the resource provisions and constraints as to how, and by whom, the work will be performed with respect to the project's objectives. Similar to WBS, the OBS assists in breaking down the organizational responsibilities in a hierarchical manner and its alignment with the lower level elements of WBS represent work packages that can be effectively planned and managed. A work package describes the work to be performed by a specific organizational unit, and serves as a vehicle for monitoring and reporting on progress, cost and schedule. The CBS forms the backbone to integrate the WBS with the corporate financial management systems as it helps to manage costs based on organization standards. Cost elements are generally used at the work package level to add cost dimension to a WBS and help in segregating the nature of the associated costs.

The ABS is used in conjunction with the project WBS by the organizations for developing information models that support the early visualization of the asset throughout the lifecycle of a project. It also facilitates in maintaining the asset after completion of the project. Recent trends on BIM (Building Information Modeling) is gaining adoption within the design and construction processes for delivering asset scope and helping it integrate with the lifecycle of the project WBS.

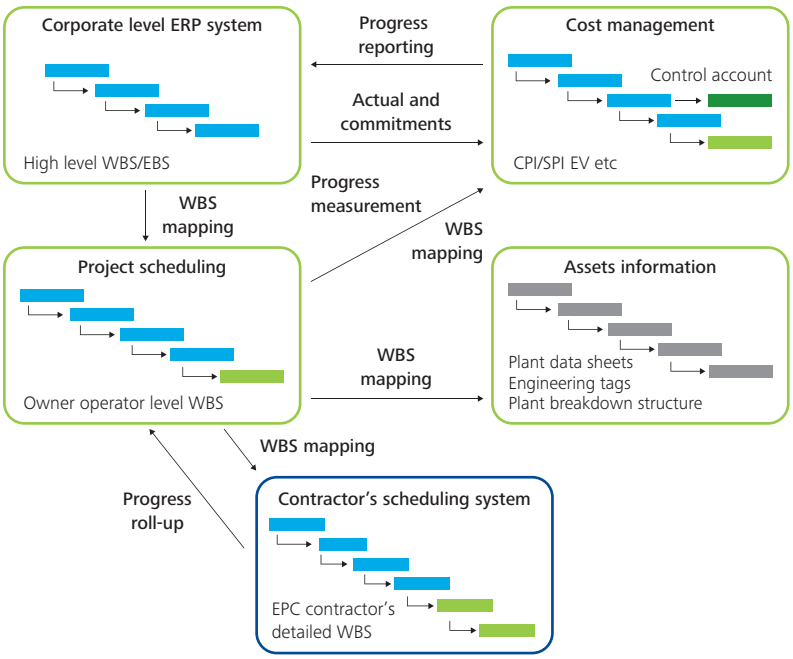
This advancement in the approach to manage capital projects has increased the complexity and resulted in poor project performances. It has also provided an opportunity for technology to reduce this complexity by making the approach as seamless as possible. Current project management information systems (PMIS) have in-built capabilities to manage small to medium projects with their varying structures and also provide features to seamlessly integrate with corporate ERP systems. However, these tools do not provide sufficient functionalities to cater to the complex requirements of mega projects. A growing trend in the industry is to use commercial-off-the-shelf (COTS) applications to manage the different areas of cost, time, and scope and integrate them for effective management. Vast synergy can be achieved by integrating these systems and alleviate the problems facing the industry from the project controls perspective. Yet, integrating such systems is an enormous challenge and leads to the following problems:

1. **Resistance to change** – The resistance to change is very significant in such integrations as we try to shift from the traditional way of managing projects. The most common issue raised by the project team is that it will increase their workload.

2. **Technical complexity** – Managing the technical complexity of integrating several systems together that probably use different technology frameworks is very difficult and leads to an un-manageable system.
3. **IT vs. business** – The requirements for both the IT and business from such integration is significantly different and leads to conflicts which if not managed properly can derail the entire exercise.

Some companies have achieved significant success in designing a solution to integrate different best of breed products for project management that revolves around a standard WBS that manages all other aspects of project controls effectively. By defining a common WBS across all other structures up to a certain level, they allow each structure to build upon a common hierarchy with the associated details (for example, the cost management system can use the lowest level of WBS and append the cost elements to manage cost effectively.) This approach reduces the associated technical complexity and facilitates the integration of information coming from different systems onto a common point i.e. the lowest level of the common WBS. Typically, this lowest level is called the work package level and helps the project team manage the project in a tiered approach whereas allowing the project manager (and anyone with sufficient privileges) to manage the project as a whole. These tools further help to automate many laborious processes and it is strongly recommended to use prototypes for convincing the organization on how this automation reduces their work. It is also imperative that such integration efforts should be led by the business with IT leading the technology aspects of integration based on business requirements.

WBS lifecycle management is critical towards the successful delivery of any project and technology can effectively act as an enabler to bring projects within budget and time. A sample WBS lifecycle of our approach is depicted below with associated systems:



By **Chris Digby**, senior director, Consulting, Deloitte & Touche Bakr Abulkhair & Co., **Muhammad Razeen**, senior manager, Consulting, Deloitte Middle East and **Syed Ammar Zaheer**, senior consultant, Consulting, Deloitte & Touche Bakr Abulkhair & Co.

Endnotes

1. A.T. Kearney Excellence in Capital Projects II study, 2012