

White Paper



Project Management – An Overview



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WHAT IS PROJECT MANAGEMENT?

Project management is the organization, management, and control of all aspects of a specific project throughout its duration, from initial concept to final takeover. The final product should achieve the Owner's objectives with respect to:

- successfully fulfilling the predetermined scope, function, and quality requirements;
- completion within the approved schedule; and
- completion within the approved budget.

When project management is applied to a multi-project collection of work, we refer to this as program management. The principles of project management apply equally to program management.

There has been a growing awareness of project management as a special skill and competency that is learned and applied, much the same as the traditional specializations of engineering or architecture. Project management is quite different however, from the technical design, engineering, architecture or construction disciplines most readily associated with capital projects. Often, there are aspects of a project that fall outside the scope of these technical areas that need to be prudently managed in order to meet the broader project objectives. This has resulted in the evolution of project management as a separate and distinct function that is performed independently of, but in conjunction with, architects, specialty engineers, suppliers, and contractors (construction managers), each executing their respective project roles.

WHEN IS IT USED?

The principles and techniques of project management are applied to a wide variety of projects involving strategic planning, new construction, major maintenance and repair work, renovations, relocations, and reorganizations. The more complex the situation or undertaking, the more appropriate the application of project management principles.

For complex projects, the consequences of how well the project is managed will usually far outweigh the consequences of how well any specific technical role is performed.

For such projects, it is often better to put the appropriate project management capability in place before the architectural, engineering, or construction capabilities. Project management should also be applied to the initial pre-project or project definition phase, where the requirement is to perform a comprehensive project definition and implementation planning study, and assemble all technical resources and Owner's user, operations and maintenance inputs to properly define the project and its scope, time, cost, quality, and functional or performance objectives.

HOW DOES IT WORK?

The Owner appoints the Project Manager (PM), who, in consultation with and on behalf of the Owner, establishes the multidiscipline project team required to define and implement the project. This team can be comprised of planners, designers for the various disciplines (architect and engineers), technical specialists, cost consultants, schedulers, construction planners, contract administrators/coordinators, administrative/support personnel, and the various contractors and suppliers required to carry out the actual construction work. The team may also include certain resources of the Owner, who may be seconded to the project based upon their availability, skills and knowledge.

All activities are scheduled and budgeted and are then carried out in accordance with an established project plan. The PM is generally charged with the responsibility to prepare the project plan with substantial input from other key members of the project team. The project plan addresses key issues such as project organization structure and staffing, procurement and contracting strategies, quality management, risk management, project procedures and systems, use of technology, etc. Frequent meetings of the project team, chaired by the PM, ensure that the plan is being correctly followed. The project plan becomes the baseline document used by the PM to measure progress and chart compliance or deviation. Corrective measures and work around plans can then be developed by the PM to bring the project back on track if needed.

WHAT DOES A PROJECT MANAGER DO?

In general terms, a PM acts as the focal point for the project, integrating and facilitating all project activities while assuming full responsibility and accountability for its successful completion. The PM does not do all required project work, but does take all the steps needed to ensure that the appropriate members of the project team complete their assigned tasks, within the budget and schedule requirements. The PM introduces a discipline and structure to the project that allows informed decision-making in a timely manner by the Owner that supports the overall program of work activity. The PM brings skilled project management personnel to the project and makes use of sophisticated project management software tools and techniques, supported by proven project management business processes.

While doing so, the PM acts at all times as an agent, representative or advocate of the Owner. The PM resolves conflicts and issues that might otherwise be burdensome while keeping the Owner fully informed as appropriate. The PM is, in effect, an extension of the Owner's organization, increasing in-house capabilities for the limited duration of a specific project.

WHAT ARE THE BENEFITS?

The project management approach can offer expertise over and above that which the Owner would otherwise have within their organization. This includes well established project management processes, systems, procedures, best practices, and experienced human resources, all of which are dedicated to the project for its entire life cycle.

This concept-to-commissioning management approach provides the Owner with better control, structure, accountability, predictability, and end results. The PM can resolve conflicts that the Owner might otherwise be burdened with, while those decisions that have to be referred to the Owner can be presented in an uncluttered and timely fashion. Project management provides for better information flow on the project as well as a degree of objectivity and perspective not otherwise available. In addition, for those Owners not accustomed or familiar with large or complex projects, the PM can assist them and their user groups to organize their internal activities necessary to support the project implementation and decision making process.

The project remains organized under a single-point responsibility structure that facilitates a concerted and organized coordination, planning and control function. The Owner has more flexibility in determining the outcome of the project through the adoption of a variety of implementation approaches and the direct selection of the most appropriate project team members (architect, engineers, contractors, suppliers, and internal resources) for the whole project or for the various parts of a multi-project program of work.

There is no overlap in the PM's duties with regard to services provided by the architect, engineers and contractors (construction managers). Hence, the cost of the services of a PM does not add to the cost of the project – in fact, there are often cost savings resulting from using an experienced project manager that can amount to several times the value of the fees charged by the PM.

For maximum benefit, the project management approach should be applied right from the initial business planning and concept stage of the project, where the discipline of project management is also applied through the planning and definition phase of the project, and the PM is charged with implementing the project in accordance with the project plan.

The benefits of a structured and formal project definition approach have been well documented by the Construction Industry Institute (CII) of the USA, where their studies of several thousand projects indicated an average savings of 39% on schedule and 20% on capital cost over projects that did not adopt a formal planning and definition approach. Other benefits included improved predictability in terms of meeting and exceeding established cost, schedule, quality, and functional performance objectives.

Simply stated, the main benefit derived by the Owner from the project management approach is substantially more control over the project outcome, particularly since there are also many non-design and non-construction issues to define, solve and track.

An additional significant benefit is the considerably reduced time and effort required of the Owner's own staff and having a professional management consultant acting for, with, and on behalf of the Owner, for the duration of the project. Many customers benefit from the technology and knowledge transfer associated with working through a project with an out-sourced professional project manager.

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