

Project Manager's Tip Sheet

Project – a finite endeavour undertaken to create a unique product, service or result

Can you do it yourself?

Professional project managers are results-driven. They act now to prevent future problems. Successful project management is critical to project success. Inexperienced project managers fail to keep minor problems from growing into significant problems. Do you have the project-management resources to:

- Organize and lead project teams?
- Plan effectively?
- Effectively control changes to budgets, schedule and scope?
- Manage group processes?

Finally, can you dedicate the time required to do the job right?

On your last project...

1. Did you begin by setting and defining project objectives, budget, timeline, available resources, shortfall consequences, outcome standards, level of organizational priority and support? Were project end users asked to describe:
 - i. best project result?
 - ii. minimum acceptable result?
 - iii. training required to implement the project result?
2. Were project participants asked about:
 - i. resources required for the project?
 - ii. existing methods, products, services or technologies to simplify or accelerate the project?
 - iii. aspects most difficult or prone to schedule or cost overruns?
3. Were necessary project resources and their timing clearly defined?
4. Were contingency plans developed for anticipated problems?
5. Was there clear, unambiguous and frequent communication with project participants, end users and resource providers?
6. Was there a plan and support for training, documentation, follow-through and results measurement?
7. Was a post-project summary written including lessons learned during the project?

Project Management Axiom: You can't manage what has already happened.



What does a project manager do?

Responsible for the day-to-day management of activities associated with the project management lifecycle.

Essential Functions:

- Initiates projects, including identifying and analyzing preliminary business needs, budget considerations, time and resource estimates and defining the project scope and objectives.
- Provides direction and structure for the project, establishing clear and precise goals and objectives.
- Defines project tasks, time and resource estimates and builds the project plan.
- Identifies the roles, responsibilities and accountabilities of project team members.
- Builds and maintains the project team. Manages the work effort. Tracks progress against the plan.
- Controls the project budget and schedule, costs and changes, and deals effectively with project problems.
- Tracks project issues. Evaluates project results, reports progress and closes the project.
- Resolves team and project conflicts.



Construction projects are risky

Risks exist regardless of the method of project delivery (design-bid-build, design-build or construction management) and the experience of the participants. The project manager anticipates and manages these risks.

Expect Claims and Change Orders When...

1. Work not specified is requested or work is different from contract documents
2. Contract drawings and/or specifications are changed, amended, revised, amplified or clarified
3. Plans or specifications do not provide enough detail to cost work required
4. Work is performed out of sequence
5. Work is stopped or interrupted for any reason
6. The owner imposes a new, different or shorter schedule
7. Site conditions are different than expected
8. Drawings and/or specifications are incomplete or inaccurate
9. Unwarranted work rejection occurs
10. There are increased inspection, test or quality control program requirements
11. The owner fails to disclose information or make timely decisions
12. Strikes occur
13. Weather or other forces of nature interfere

Inexperience

At least half of owners are building construction projects for the first time. Owners often fail to take into consideration the progressive effect of many small changes on costs and schedule. Owners often rush the design phase and do not employ methods available to reduce and manage construction risks and costs.

Weather, environment and political circumstances

Buildings are constructed in difficult conditions. Long combined schedules for design and construction expose the process to risks such as supply shortages, strikes and inclement weather. Construction projects are different from manufacturing projects.

Many different industries are involved

Building projects require more than one industry to get the job done:

- Architectural consultants
- Engineering consultants (structural, mechanical, electrical, etc.)
- General contractors
- Specialist sub-contractors

Each industry has its own goals and interests. Conflicts are a natural result of differing points of view. Often the claims industry will get involved when there are conflicts. The goal of a claims agent is to maximize the revenue of one of the project participants at the expense of the owner.

An experienced project manager uses the tools available to ensure that the project meets the owner's objectives with the least risk.

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*How does a project get six months late?
One hour at a time*

Project management terms

Accountable

The accountable person in a team may or may not be the one who actually does the work in question, but he or she is the one whose job it is to make sure it gets done.

Aligned

People and plans are said to be aligned when they are in agreement.

Business User

The people who will own and/or operate the facility, product or system being produced.

Business Requirements

The tasks that the stakeholders need the system or site to perform to fulfil business needs.

Buy-in

Working with stakeholders to reach consensus (buy-in) is the best guarantee of success – both for the project and for those who must work with the resulting changes to their work life.

Change Request Process

A properly managed project has as its foundation a clear scope of work, schedule and budget. Any changes

beyond these parameters may trigger extra costs. An orderly change request process ensures that all changes are evaluated with respect to time, quality and cost.

Communication Plan

Orderly plan for communicating the project scope and objectives to all stakeholders.

Constraints

Limitations such as time, budget or technical strategy that limit actions you may undertake within the scope of the project.

Dependency

Tasks or project stages whose completion or success depends on the completion of other tasks or stages.

Due Diligence

Demonstration of rigorous enquiry and consideration of factors (including previous events or action) that may influence the success or legitimacy of the project.

Functional Specification

A specification that describes how a facility, product or system will perform.

4 Four tools to build a better project



- Value Engineering Study
- Constructability Review
- Risk Analysis
- Bid Document Review

Risk analysis, value engineering, constructability reviews and bid document reviews are proven, cost-effective methods for increasing value during design. Use of these tools will deliver significant savings by reducing changes, delays and claims.

Problem One: Maximizing Project Value

Is your project delivering the best value for money? Project managers can implement value-engineering studies to address this central question. Like other reviews, value-engineering studies are conducted by a multidisciplinary team whose members have no vested interest in the project.

Problem Two: Can It Be Constructed as Designed?

The plans look good, but can they be built? Within the allotted time and budget? Constructability reviews are coordinated by experienced project managers, and make use of construction expertise to offer a “fresh set of eyes” trained to identify potential construction problems, inefficiencies or even impossibilities in the design. Ways to improve competitiveness and completeness of bids can be identified up front, reducing changes and final project costs.

Problem Three: Acknowledging and Planning for Project Risk

Risks exist on all projects. The only question is whether you want to explicitly consider risks in advance. If you do not, your only option is crisis management. Risk management is a systematic and structured method to identify and analyze potential risks, and plan to manage project risks.

Problem Four: “Loose” Tender Documents

Loopholes, mistakes and omissions in contract documents can put your budget and schedule at risk. Instead of trusting that the bid documents are “right”, owners should give serious consideration to employing independent construction professionals (not associated with potential bidders), to review your documents from a contractor’s perspective.

Is Your Project on Target?

- Check your project’s scope: Refresh your memory about your project’s goals and boundaries.
- Check your deliverables: Analyze the status of each project deliverable. Are they evolving as planned?
- Check your schedule: Examine your milestones, key dates, and critical path. Are you where you need to be?
- Analyze variances (deviations from the plan) by comparing “estimated” to “actual”.
- Review scope changes.
- List, track and try to resolve open issues.
- Revisit potential project risks.



Over-run

Failure to meet time or cost objectives.

Resources

Everything needed to complete the project, but particularly people and money.

Risk Register

A register of what could go wrong with the project; impact of such occurrences and how likely they are.

Scope

What the project will deliver. Once agreed upon, the scope of the project should be respected as closely as possible and is referred to as the benchmark, whenever changes are suggested.

Scope-creep

When minor “improvements” to the project are implemented without a change request. Once the scope has been determined, it is important to prevent scope-creep by insisting on change requests.

Sign-off

This should always take the form of a signature or a clear record from a minuted meeting, indicating that the person with authority to formally approve the work has done so.

Slippage

This is the term applied when a project begins running slightly over time or over budget.

Stakeholder

Any person or group with a valid interest in the project. If the project affects someone else’s work, he or she is a stakeholder.

Technical Specification

The detailed definition of how the system will meet the functional specification.

TOR (Terms of Reference)

The plan for the project. It contains the what, how, when and why. In most organizations, there won’t be a budget or sign-off without a TOR.

Project Management Glossary

Integration Management

- Project Plan Development
- Project Plan Execution
- Overall Change Control

Scope Management

- Initiation
- Scope Planning
- Scope Definition
- Scope Verification
- Scope Change Control

Time Management

- Activity Definition
- Activity Sequencing
- Activity Duration Estimating
- Schedule Development
- Schedule Control

Cost Management

- Resource Planning
- Cost Estimation
- Cost Budgeting
- Cost Control

Quality Management

- Quality Planning
- Quality Assurance
- Quality Control

Human Resource Management

- Organizational Planning
- Staff Acquisition
- Team Development

Communications Management

- Communications Planning
- Information Distribution
- Performance Reporting
- Administrative Closure

Risk Management

- Risk Identification
- Risk Quantification
- Risk Response Development
- Risk Response Control

Procurement Management

- Procurement Planning
- Solicitation Planning
- Solicitation
- Source Selection
- Contract Administration
- Contract Close-out

Bid

A binding offer, usually expressed in dollars, to provide specific services within clearly stated requirements.

Bid Bond

A pledge from a third party (usually a surety company) to pay damages to the owner equal to the difference between the bonded contractor bid and the next highest bidder (but not to exceed the face value of the bond) if the bonded contractor declines an award offered by the owner.

Bid Documents

The documents distributed to contractors by the owner for bidding purposes, including drawings, specifications, form of contract, general and supplementary conditions, bid forms, addenda, etc.

Change Order

A document that alters the contract amount, contract time, or contract requirements of the original contract entered into by the owner and a contractor.

Changed Conditions

Conditions or circumstances, physical or otherwise, which arise after a contract has been signed and which alter the circumstances or conditions on which the contract is based.

Claim

A formal notice sent by a contractor to an owner asserting that the terms of the contract have been breached and compensation is being sought by the contractor from the owner.

Construction Documents

Drawings, technical specifications and addenda; contract documents that refer to the physical construction requirements.

Contingencies

Amounts in the project budget, dedicated to specific cost areas, to make provisions for oversights or unforeseen problems.

Critical Path

The continuous chain of activities from project start to project finish, whose individual durations cannot be exceeded if the project is to be completed on the project finish date.

Fast-Tracking

The strategy of designing portions of a project while those portions already designed are under construction.

Final Completion

The point at which both parties to a contract declare the other has satisfactorily completed its responsibilities under the contract.

Float

A scheduling term indicating that an activity or a group of activities does not necessarily have to start or end on the scheduled date(s) to maintain the overall schedule.

Force Account Work

Work done and paid for on a time and material basis.

Hierarchy of Construction Documents

In the event of conflict between parts of contract documents, a statement regarding which documents (e.g. specifications) take precedence over the others (e.g. drawings).

Labour and Material Bond

A guarantee provided by a surety company to pay claims against the owner from contractors and suppliers who have not been paid for labour, material and equipment incorporated into the project.

Letter of Intent/Notice of Award

A notice from an owner to a contractor stating that a contract will be awarded to the contractor providing certain events occur or specific conditions are met by the contractor.

Milestone

A significant event in the project, usually completion of a major deliverable.

Multiple Contracting

A contracting format that separates the project's single work-scope into a number of interfacing smaller work-scopes, to be individually and competitively bid or negotiated.

Notice to Proceed

A notice from an owner directing a contractor to begin work on a contract, subject to specific stated conditions.

Performance Bond

A guarantee provided by a surety company to complete a project consistent with the terms of the contract documents in the event that the bonded contractor defaults on the contract.

Quality Assurance

The procedure established by the project team to inject and extract the level of required quality.

Quality Control

That part of the quality assurance procedure that determines if specified quality is attained.

Substantial Completion

That date on which a contractor reaches a point of completion, when contractors scheduled to work next can productively begin work, or the owner can occupy the project, in whole or in part, without undo interference.

Warranty Phase

A stipulated length of time following the construction phase, during which contractors are bonded to ensure that materials, equipment and workmanship meet the requirements of their contracts, and that supplier and manufacturer warranties and guarantees remain in force.



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