What Is Project Management?

Mind Tools™

What Is Project Management?

This e-book is published by Mind Tools Limited, of
2nd Floor, 145-157 St John St, London, EC1V 4PY.

Version 2.0

Contents

What Is…Project Management?

Introduced by Mind Tools CEO, James Manktelow

Project Management is the discipline of controlling the introduction of new initiatives or organizational changes.

While the very simplest projects can be managed by applying common sense and just getting on with things, more complex projects benefit from a more formal management approach. From making sure that activities meet the specified need, to devising a workable schedule and managing requests for changes – all of these issues require thoughtful consideration.

It therefore takes a great deal of time, skill, and finesse to manage projects effectively. There are many sides to project management, and this is what makes it such an interesting and demanding job.

With this workbook, we'll introduce you to project management, and help you understand how this vital role helps companies make the changes needed to respond to their environment.

Specifically, you will learn about:

- The four main phases of managing a project.
- The decisions that project managers are required to make.
- The skills needed by people who manage projects.

Please note that this workbook is designed as an easy introduction to the subject for people with no exposure to formal project management methodologies. Your organization may already use specific project management methodologies. Where appropriate, make sure that you know about and use these.

James Manktelow, CEO,
MindTools.com

Project Management Basics

Projects come in all shapes and sizes. One project might consist of 50 tasks and another may have 1,000. One may be completed within a month, while another may span several years. Sometimes, there's a series of smaller sub-projects within a larger project or program.

Whatever the particulars, large or medium-sized projects often have the following characteristics in common:

- A series of complex and interrelated activities, many of which have to be carried out in sequence.
- A predetermined timescale, with a clear beginning and end.
- A fixed budget.
- A specific deliverable.
- The involvement of many people, often coming from different functions.

A single task is not a project, neither is an ongoing work assignment that involves a group of people. Projects require a temporary, coordinated effort. They are comprised of a series of activities that end by a specified date, are completed within a specified cost, and deliver a new initiative, process, system, service or product. The expectation is that the project team will break up once the goal has been achieved, although they may move on together to a new or follow-on project in a similar area.

Action: Write down brief details of three projects that meet these criteria, that have been carried out in your organization, and which have touched on your role or responsibilities.

1.

2.

3.

Project management, then, is the centralized planning, organizing, controlling, and monitoring of key activities that will ensure the accomplishment of a project's objectives, and satisfy the project's customers. Managing a project means managing the project team, as well as the time and the resources needed to ensure that the project is completed on time, within the set budget, and according to all specifications. To do this effectively, there are four key stages to any project:

1. Initiating.
2. Planning.
3. Building/Executing.
4. Closing.

During the Building stage, the Project Manager is responsible for a parallel set of monitoring and controlling activities.

Note: This workbook provides a basic introduction to project management, and it describes project management using general, generic terms.

Your organization may use a specific project management methodology, such as PMBOK (the Project Management Body of Knowledge), which is popular in the U.S. and Australia, or PRINCE2 (PRojects IN Controlled Environments), which is widely used in the UK. If so, you will find that the concepts included here appear within these methodologies, but you should use the specific terminology associated with that methodology when discussing projects with your colleagues. For more on PMBOK and PRINCE2 see http://www.mindtools.com/pages/article/newPPM_06.htm.

Generally, the larger the project you're involved with, the more it will benefit from being run using appropriate parts of these methodologies.

Also, make sure that you find out whether there are industry- or organization-specific methodologies that you could be using – these may be more appropriate than any generalized approach.

We'll now look at each of these stages in more detail:

Initiating

In general, project managers don't choose their projects. Instead, they're assigned to manage them by an individual or group higher up in the organization – a Steering Committee or Project Sponsor, for instance. Having said this, the project manager will often be handed an outline idea, and will be responsible for drawing up more detailed plans and costs. These are then presented back to some sort of approval committee, which will then give the final go-ahead (or otherwise).

The initiating phase lays the groundwork for the rest of the project, and a sound initiation will contribute strongly to ensuring that adequate support is provided for the project throughout its lifetime.

One of the most important first steps is defining the exact business requirement: projects, as we've already discussed, involve providing a specific deliverable on time, to appropriate quality standards, and within budget. All three elements need to be defined during the initiation phase, but the process will usually start with setting out the precise scope of the project. For example, if the project is to build a bridge over a river, you'll need to be clear about how many lanes of traffic it's to take, what maximum weight it needs to be able to hold, and so on. Only when this has been done can you calculate how long it will take to build, and how much it will cost.

Of course, you may then need to go through several iterations if the proposed timeline or budget is unacceptable – during which the scope may need to be reduced.

Business Requirements Analysis is the technique used to define the exact business requirement. This helps you to fully understand the desired outcome, so that you can then design a solution that will deliver this outcome.

For more on Business Requirements Analysis, see:
http://www.mindtools.com/pages/article/newPPM_77.htm

Action: Think about a major project you've been involved with, or that you're aware of. Answer the questions below to help you more deeply understand the activities involved in managing projects.

Project Initiation
Project Name: What was the name of the project?
Purpose: Why was this project initiated? Describe the likely desired benefits of this project. Consider possible financial, organizational, and operational benefits.

Objectives: What specific objectives needed to be met in order to achieve these benefits? How do you think they were measured?
Deliverables: What outcomes did the project need to deliver in order to achieve these objectives?

All of this information is gathered together into a Project Charter (or similar document), which is then signed off by the appropriate authority, giving the project manager formal authority to go ahead with work on the project.

Planning

Project planning is critical to project success in all but the smallest projects. Effective planning involves clarifying the scope of the project, and specifying, in detail, the resources required to deliver it. The end result is a comprehensive project plan. It also involves planning all of the activities that are necessary to achieve the objectives, including scheduling, specifying who will work on each activity, budgeting, risk management, communications planning, and quality planning.

In PRINCE2 terminology, all of this is drawn together in a Project Initiation Document or PID, which contains the project plan (activities and timelines), the business case (including budgets), and the risk log for the project.

For more on Project Initiation Documents, see:
http://www.mindtools.com/pages/article/newPPM_85.htm

The PMBOK methodology doesn't use the term PID, but nevertheless draws together the same kind of information.

So the main tasks that a project manager has to carry out at this stage are:

Identifying Activities – The first part of scheduling requires building a Work Breakdown Structure (WBS). This is where you break down the overall objectives of the project into smaller pieces. As you work through the process, it becomes clear what specific things have to be accomplished, and in what sequence. For more on Work Breakdown Structures, see:
http://www.mindtools.com/pages/article/newPPM_91.htm

A WBS can be organized in different ways, and you can break the project down using, for example, activities or processes. In an office move project, these could be activities like "move the marketing department" and "move the accounts department". You might consider key achievements needed, like "identify a new building" and "move all of the office equipment". Or, you can break it down by function. For example, "moving computers", "moving furniture", and "reprinting stationery".

Resource Scheduling – In projects there are usually numerous activities which have to happen in a sequential order – the IT guys can't start reconnecting the computers in a new

building until the desks have been brought in, for example (but desks can't be installed until cabling has been completed!) However, there are also activities that can take place at the same time – stationery can be being reprinted with the new address, at the same time that furniture is being moved. The key tools that Project Managers use to plan and manage this are Gantt charts. These are scheduling tools that help project managers keep track of all of the activities of the project, so that everything fits together as it should and so that expensive resources are not kept on hold.

See our article on GANTT Charts for more:
http://www.mindtools.com/pages/article/newPPM_03.htm

Risk Assessment and Management – Project Managers also need to identify, analyze, and respond to risks associated with the project. The goal here is to reduce the likelihood of risks occurring, and to minimize their impact if they do occur. The best planners consider risk right from the start, and don't let a few incidents "just happen" before they start actively managing risk. See our article on Risk Analysis and Risk Management for more details on this:
http://www.mindtools.com/pages/article/newTMC_07.htm

Action: List some of the possible risks involved in your example project. Estimate the likelihood of each one occurring (high/medium/low) and its potential impact (high/medium/low).

Risk	**Proba-bility**	**Impact**

One useful tool that project managers use for risk analysis is the Risk Impact/Probability chart. This allows them to highlight the risks which are the most likely to occur, or that have the greatest potential impact. Project managers look hard at these, work on devising ways to reduce the likelihood of their occurrence, and think about how to mitigate their impact should they occur.

For details of how to draw up a Risk/Impact Probability Chart see:
http://www.mindtools.com/pages/article/newPPM_78.htm

Risk management information is stored in a Risk Log, which the project manager should update regularly during the course of the project.

Alongside the Risk Log, project managers often maintain a list of Constraints and Assumptions. A typical constraint in an office relocation project might be that "the accounts team must have the finance servers 100 percent available for a week after the month's end, so neither the servers nor the accounts team's desks can be moved during that window of time". An example of an assumption is that "relocating the office from the center of town to a new business park on the outskirts wouldn't require phone number changes".

Communications Management – It is essential that all of the stakeholders involved in a project are kept appropriately informed about what's going on. However, the needs of the various stakeholder groups are likely to vary. The Project Board wants to know about the project's progress, and whether it is staying within the budget, for example, and these needs would be met by the various reports we'll discuss in the next section.

On the other hand, individuals whose duties will change once the project is launched aren't too interested in the build progress or the budget, but they do want to know, among other things, what they'll have to do differently, and when they'll need to start using new procedures.

Project managers, therefore, should meet this complex set of communication needs by creating a Communications Plan. This should log each stakeholder group; their interests and issues; what the project manager needs them

to do; how best to communicate with them; when and how often communications need to be sent to them; and, of course, what information each of the groups needs.

For more on stakeholder communications, see:
http://www.mindtools.com/pages/article/newPPM_08.htm

Building/Executing

The project build phase includes execution and control of the project plan. It is during this stage that the project manager applies leadership, team management, communications, and negotiation skills to ensure that the work is performed as planned.

The focus at this stage is on:

- Doing the work of the project according to the specification, and following the project schedule.
- Monitoring and analyzing progress against the plan, identifying when the project is off track, and taking corrective action as required.

Adequate reporting procedures are essential to the successful delivery of the project to specification, and are also necessary for it to be completed on time and within the set budget. Reports are used to provide information to stakeholders about the status of the project, and on progress of the project against the plan.

While all team members are included in the reporting process, the project manager is the one who collates information and summarizes it for the team, the sponsors, and the stakeholders. Some of the more common reports and procedures used include:

Project Milestone Reports – Using this type of report helps monitor milestones and ensures that key target points are met. If/when problems arise, this document also allows for proactive planning to ensure that the project, as a whole, stays on target and isn't derailed by one setback. For more details, see:
http://www.mindtools.com/pages/article/newPPM_88.htm

Project Dashboards – This type of report allows quick and easy communication of the status of various elements of a project. It uses green, yellow, and red "traffic light" reporting to indicate whether the activity is on target, needs attention, or is off target. The visual element of the dashboard is helpful, and it means that not everyone has to wade through lengthy reports to get a summary of the project's status. For information on creating a project dashboard, see:
http://www.mindtools.com/pages/article/newPPM_92.htm

Change Request Procedures – As projects are implemented in a changing world, and because even in the best-planned projects, not every detail will always have been identified beforehand, plans will sometimes need to change. Changes may be small or large; however, having a process to deal with change requests is essential if project timescales and budgets are to be met. With a change control process, you can ensure that changes are properly reflected in the overall project plan. An effective change control system should include:

- Processes for recording all change requests quickly and accurately.
- Processes for accepting or rejecting change requests.
- Methods for preventing unauthorized changes.
- A system for informing stakeholders of changes.

As a rule of thumb, change that is within the original project scope and that is necessary to deliver the business requirements should be accommodated, if possible.
For more on Scope Control in projects, including managing scope changes, see:
http://www.mindtools.com/pages/article/newPPM_76.htm
Other elements involved in the build phase include quality control, training, testing, and

preparation to transfer from project mode to support, or "business as usual", mode.

Closing

In the final phase of project management, the results of the project are verified and accepted, and the project is moved to the operations side of the organization. Once it has gone live and been handed over, the project is shut down.

The purpose of a formal closing process is to ensure that the objectives are, indeed, achieved, and are sustainable. By formally closing the project, the project manager also has an opportunity to document what was learned, and then to use that information for continuous improvement. Key tasks in closing are:

- Ensuring final acceptance of the project deliverables, and checking that they do, in fact, provide the intended business benefits.
- Archiving of project plans for future use and reference.
- Performance review, evaluation, and celebration.

For more on Post-Implementation Reviews, see:
http://www.mindtools.com/pages/article/newPPM_74.htm

For a glossary of terms that are commonly used in Project management, see:
http://www.mindtools.com/pages/article/newPPM_Words.htm

Responsibilities, Decisions, and Challenges

Project managers have a lot of responsibility for the success or failure of the projects they run. They usually don't deliver the project single-handedly – there is usually a team of people working toward the same objectives. But, when things go wrong, the project manager is the person everyone looks to for solutions.

One of the key challenges for project managers is the issue of having accountability, but lacking authority. They also have to work with constraints on the availability of the human and other resources that they need to use. The people working on the project are often working on other projects – or doing their "day job" – at the same time, and physical resources may need to be shared and scheduled. Financial resources are often limited, and the project manager often does not have the authority to approve budget changes.
Another challenge for project managers is the fact that many of them have a "regular job" to which they have to attend, as well. Large organizations often have designated project managers; however, most small to medium businesses second people to the position and often still expect their main roles to be completed, as well.

The fact that many project managers find themselves in the position by default rather than by choice also leads to further challenges in terms of training and effectiveness. Managing a project is different from managing in general. The concepts of planning, organizing, and controlling are the same; however, many of the processes needed are unique to project management.

All of these things can make project management a tough job. However, this is often reflected in rewards given, and the satisfaction that comes with doing a tough job well.

Essentially, the responsibilities of the project manager are to:

- Prepare the project plan and budget.
- Make sure that the project has access to the right resources.

- Monitor progress, and the budget.
- Manage the risks.
- Oversee the day-to-day project activity.
- Communicate the project's status to key stakeholders.

To meet these responsibilities and achieve the goals of the project, the project manager has to ask questions, such as:

- What resources are required to achieve the project's objectives?
- Who is best suited to perform which activities?
- What support and resources do people need in order to perform their work?
- Are there organizational obstacles that need to be removed so that people can do their work? If so, how are these best removed?
- Is the customer/end-user happy? What needs to be communicated to ensure their satisfaction?
- What misunderstandings do I need to clear up so that work can continue?
- Is everyone working on-task, and if not, what type of motivation will be most effective to make this happen?
- Is the overall project under control despite any setbacks or incidents? If not, what needs to be done to regain control?
- What risks and potential trouble spots are lurking that I need to address sooner rather than later?

Given all of this responsibility, there are many decisions in which the project manager needs to be involved. The key decisions that the project manager makes, however, have to do mostly with the planning process, and these include:

Establishing valid initial assumptions – It's important to review and anticipate risks early on in the project, and manage these risks actively. This is one of the most important activities in which a project manager can become involved.

Determining key milestones and review points – For the project to be completed on time, the project manager needs to break the project down into different phases, and manage full and satisfactory completion of these phases. (The risk here is that people tell you that work is "80% done", even though there's actually a vast amount of work still left to do to polish the deliverable to a sufficiently good level.) By insisting on delivery of a finished phase product at the close of each phase, you avoid poor quality delivery, rejection at a testing phase, and extensive rework and delay at the end of the project. Milestones and phased delivery are also what helps to keep positive momentum, and sustain the sense of progress towards the end goal. Supporting this, the project manager has to develop a system of reviews and reports that will be used during the project, and identify who is responsible for completing them.

Estimating task duration – Early on in the planning phase, the project manager needs to determine how long each major project task is expected to take. He or she does this in conjunction with the team, and by analyzing historical projects of a similar nature. It's important to ensure that the timelines meet the needs of the stakeholders (although stakeholders often want the project's product in an unfeasibly short time, and these expectations need to be managed). While developing the schedule, the project manager also has to build in an appropriate contingency to accommodate the mishaps and unexpected events that are bound to surface during the project.

Optimizing the project plan – With an overall plan outlined, the project manager then needs to review and optimize the plan, in terms of cost and schedule. This might mean reducing the scope of the project or adding more resources to reduce time, which is always balanced with the costs of staying within the project's budget. This optimization process often introduces new risks that need to be accounted for, and means that plans need to be made to ensure that the new risk doesn't jeopardize the project. This needs careful planning, so that the plan is streamlined to maximize benefits, while not cutting corners in such a way that unnecessary risk is incurred.

Allocating the work – Many project activities will be done in-house using the staff and resources available. The project manager needs to be able to identify instances when capabilities don't exist in house, or where the work is more efficiently conducted by outsourcing it. The project manager's responsibility is to, again, balance the benefits of outsourcing against the cost and risk of doing so.

Tip:
The most effective project managers are those who, alongside all of the activities described above, keep their focus firmly on the outcome required by the organization. Sometimes, the environment changes during the course of the project, so that the planned deliverable no longer meets the business requirement. In this situation, there's no point in going on, even if you have a strong emotional investment in the work already done – the end product is no longer of any use to the business.

One of the best-known examples of this is the Iridium satellite phone network. This project was first conceived in the early 90s to deliver mobile phone communication around the world, and it involved massive technology challenges, including the launching of a network of satellites. By the time this was complete, terrestrial cell phone coverage had improved so dramatically that the relatively expensive sat phone service was only attractive to people in very remote areas.

Project Management Skills

Effective project managers usually have the following skills:

- Good IT skills. (The complexity of many projects means that project managers have to be able to use software such as Microsoft Project and in-house budgeting systems.)
- Excellent decision-making skills.
- Scheduling and diagramming skills.
- Materials and resource planning skills.
- Risk management skills and techniques, including the ability to assess the probability of risks occurring.
- Confidence in making decisions with a high degree of uncertainty and risk.
- Confidence with numbers, as many of the tools associated with project management involve optimization formulae.
- Strong interpersonal skills, and the ability to work effectively across departments, and with a wide variety of people.
- Great communication, negotiation, and liaison skills, to maintain great relationships with customers, stakeholders, and team members.
- The ability to communicate assertively with project stakeholders when things get tough.
- Excellent leadership skills, and the ability to get things done through a variety of people, from all different areas of the organization.
- Good financial understanding. Many decisions have cost considerations, and project managers are responsible for their project's budget (although they may work

with colleagues in the finance department on this).
- When projects involve creating a physical deliverable such as a building, project managers will also need purchasing and procurement skills, and knowledge of appropriate health and safety practices.

Action: Think of someone you've worked with who has been performing well in a project management role (ideally, someone with this job title). Make some brief notes about things they did in each of these areas.

Skills/Qualities	**Example of Their Use of this Skill**
IT skills	
Use of decision making tools	
Use of project management tools	
Materials and resource planning	
Decision making with risk and uncertainty	
Skill with numbers and formulae	
Interdepartmental/ interpersonal skills	
Communication with stakeholders	
Leadership	
Financial knowledge	

Key Learning Points

Project management is a set of methods and techniques that are used to initiate, plan, execute, and conclude a specific project. It is a skill set that is in high demand, as many of today's organizations are project-driven. To keep pace with a fast-changing business environment, organizations need to change constantly, and projects are how change is accomplished.

Project managers need to plan meticulously, and deal confidently with uncertainty and risk. It takes a lot of leadership and organization to do this, as well as great planning and communication skills: good project management is not simply a matter of putting together a schedule and sticking to it.

Project management requires a smooth and calculated approach that takes the whole of the objective into consideration, and then breaks this down into small, manageable pieces that people can address one at a time. Using these building blocks, a project is completed step by step, under the watch of the ever-vigilant project manager.

Have you found this e-book useful?

If so, here are a few ideas for your next steps…

1) Visit MindTools.com to learn more than 100 career skills for **free**. Our Home, Tool Finder and Most Popular pages are great places to start.

2) Subscribe to our free weekly email newsletter, and get new career development tools delivered straight to your inbox. (Plus, you'll get a copy of our Personal Development Planner as a welcome gift.)

3) Ready to take a step up in your pursuit of a better life and career? The Mind Tools Club is our exclusive members-only area. Inside you'll find more than 1,000 tools and resources designed to help improve your skills, faster. Everything is written in easy-to-understand language – perfect for people with busy lives.

- Explore more than **600 personal excellence tools** – offering easy-to-follow advice.
- Choose from audio downloads, assessment tests, one-hour summaries, articles and more.
- Go at your own pace, in your own time – learning the way you want to learn.
- Connect with other passionate and driven professionals in our thriving community forum.
- Get "on-tap" advice and support from experienced career mentors and coaches.

Explore the Club for **just US$1 for your first month.**

(After that, it's US$19 or US$27 per month, with our cancel at any time, money-back guarantee.)

Join today and, as a thank you, we'll give you **four bonus career-enhancing courses** worth US$121 for free.

Are you responsible for training for your team or your organization?

Mind Tools online training is accessible, saves money, and helps you build confident, capable and effective managers. With it, you can:

- Set up corporate access to our rich blended learning environment, the Mind Tools Club.
- Populate your intranet or learning management system with Mind Tools resources.
- License our material to support specific training interventions.

To find out more (or to explore other options) contact our organization development team on +1 617 418 1731 (US) or +44 20 8144 5768 (UK), email corporate.enquiries@mindtools.com, or visit http://www.mindtools.com/corp/index6.php.

I hope you enjoy exploring our training material – and I look forward to hearing about your progress!

James Manktelow, CEO, MindTools.com