

LEARNING MADE EASY



3rd Edition

Project Management

for **dummies**[®]
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Plan well with proven
and powerful techniques

Put effective controls in place to
keep your project on track

Lead your team and manage
important stakeholders

Nick Graham

Project management consultant,
trainer and author



Project Management

3rd Edition

by Nick Graham

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dummies[®]
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Project Management For Dummies®, 3rd Edition

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Introduction

For a very long time people have been running projects – even our prehistoric ancestors must have got organised and worked together to haul a tree trunk over a small river to make a bridge. In the time since, lots of people have come up with lots of ideas for doing things better and more easily with projects. Then they and others have enhanced and refined those ideas to make them even more useful and even more powerful.

So, if you are new to projects, or fairly new and are wondering if there is a better way of doing things, this book gives you two bits of very good news at the outset. First, you don't have to reinvent the wheel. There is no need to struggle to come up with ways of planning and controlling a project when some really helpful things are already out there that do just what you need . . . and do it well. Second, using an orderly approach and effective techniques will make your project management life very much easier. This book gives you a sensible and flexible framework for you to plan and manage your project, together with a wealth of powerful and proven techniques, explained clearly and without assuming any previous knowledge of them.

As the management expert W. Edwards Deming said:

It's not enough to do your best. You must know what to do, and then do your best.

Now, perhaps you are running a project, or are about to, because it's part of your job, or you may have chosen to focus on this for a career. Either way, project management can be rewarding. There is a definite – and deserved – buzz when you deliver your project successfully and everything works.

Just in case you have heard bad things about some approaches to project management, this introduction also gives you some reassurance. The book is definitely not about making a 'paper mountain' of pointless documentation. Neither does it insist that you hold up your right hand and vow to stick to a long list of project rules and regulations. Instead you will find an emphasis on keeping your brain in gear and focusing on what is best and most appropriate for each individual project, even if that means doing something unusual.

Finally, if you are a bit nervous because you have seen or read about project failures both large and small then you can rest a bit easier. If you look at accounts of those projects you will find that many, if not most, of the failures were both predictable and preventable – as covered in Chapter 1! So, you really can be successful where so many others have fallen by the wayside.

About This Book

This book helps you recognise that the basic elements of successful project management are straightforward. The book provides information and explains powerful techniques that help you plan and manage projects successfully. That help includes how to lead and manage other people who are working with you on the project, some of whom may be senior to you in the organisation. You'll find plenty of tips, hints and guidelines for both the *hard skills* such as planning and the *soft skills* for working with people in and around your project.

But knowledge alone won't make you a successful Project Manager – you need to apply it. This book's theme is that project management skills and techniques aren't burdensome tasks you perform because some process requires it. Rather, they're a way of thinking, communicating and behaving to help you achieve successful delivery.

Like all 'For Dummies' books, this one is written to be direct and easy to understand. But don't be misled – the simple text still navigates all the critical tools and techniques you'll need to support your project planning, scheduling, budgeting, organising and controlling.

You'll find that the information is presented in a logical and modular progression. Hints and tips are plentiful, and there's some attempt at humour from time to time to keep the writing down to earth. The idea is that you finish this book feeling that good project management is a necessity and that you're determined to practise it!

Foolish Assumptions

When writing this book, I have assumed that a widely diverse group of people will read it, including the following:

- » Those who are completely new to project management.
- » Those who have some experience, but want to see if there are better ways of setting up and managing projects that they may have missed.
- » Senior managers who oversee projects and project managers.
- » People who've had years of real-world business and government experience, and people who've just started work.

Above all, I assume that you want to be successful in running projects! After reading this book, I hope you wonder (and rightfully so) why all projects aren't well managed – because you'll think these techniques are so logical, straightforward and easy to use. But I also assume you recognise the big difference between *knowing* what to do and *doing* it. You'll have to work hard to overcome pressures that will work to dissuade you from using these tools and techniques. Pressures include any people senior to you who think that if you don't plan and control a project, it all works out fine just the same, only you'll have saved time and so deliver faster. Interestingly, the same people don't take that view when organising their family holidays.

Finally, you'll find that you can read this book repeatedly and find out something new each time. Think of this book as a comfortable resource that has more to share as you experience new situations.

Icons Used in This Book

The small icons in the left margins of the book are to alert you to special information in the text. Here's what they mean:



KEY TO
SUCCESS

This icon indicates a point that is key to making you effective as a project manager.



REMEMBER

This icon points out important information you want to keep in mind as you apply the techniques and approaches.



TECHNICAL
STUFF

This icon helps you get to grips with 'project speak' terms or issues that are a bit more technical (or at least sound more technical until they're explained).



TIP

This icon highlights something you can use to improve your project management practices.



WARNING

This icon highlights potential pitfalls and dangers.

Beyond the Book

In addition to the abundance of information and guidance related to project management provided in this book, you get access to even more help and information online. Check out this book's online Cheat Sheet. Just go to www.dummies.com and search for 'Project Management For Dummies Cheat Sheet UK', which reminds you of the most important points about the subject.

Where to Go from Here

You can read this book in many ways, depending on your own project management knowledge and experience and your current needs. However, it's worth starting out by taking a minute to scan the table of contents and thumb through the sections of the book to get a feeling for the topics.

If you're new to project management and are just starting to plan a project, first read Parts 1 and 2, which explain how to plan outcomes, activities, schedules and resources. If you want to find out how to identify and organise your project's team and other key people, start with Chapter 12 and Part 3. Or feel free to jump back and forth, hitting the topics that interest you the most, or where you want to refresh your knowledge as you approach a particular stage of your project.

No matter how you make your way through this book, plan on reading all the chapters more than once – the more you read a chapter, the more sense its approaches and techniques will make and the more it will all just become the way that you think and work. And in all cases, have fun – project management really can be enjoyable!

1

Understanding Projects and What You Want to Achieve

IN THIS PART . . .

Understand why projects go wrong, and see why you can succeed.

Answer the question 'Is this really a project?', because not everything is.

See how to specify the scope of the project and balance the control factors to ensure that it is achievable.

Recognise who's likely to have an interest in your project, and how you have to manage them.

IN THIS CHAPTER

- » Understanding what makes a project a project
- » Seeing what's involved in project management
- » Coming to grips with the Project Manager's role
- » Knowing what it takes to be a successful Project Manager

Chapter **1**

Success in Project Management

Organisations are constantly changing as they keep pace with new market conditions, new financial regulations, new business practices, new legal requirements and new technology. Then there is work such as upgrading or moving premises, installing new facilities, carrying out major maintenance, improving manufacturing processes and re-branding commercial products. A lot of that work is carried out with projects, and as a result people are needed who can manage those projects and manage them well.

Taking on a Project

Because you're reading this book, the chances are that you've been asked to manage a project for the first time or that you're already running projects and are looking to see whether you can find easier and better ways of doing things. If the project is indeed your first one, that's a challenge and may well give you the chance to excel in something you haven't done before; for many, managing a project even opens a door to a new career.

The really good news here, whether you're completely new or have some experience, is that project management has been around for a very long time. In that time, Project Managers have come up with highly effective strategies and a range of very practical techniques. You can benefit from all that experience, and this book takes you through what you need to know. You may be a bit guarded even now because you've heard of, read about or even seen, a lot of project problems and failures. More really good news is that most project failure comes from well-known and avoidable problems; you really don't have to be part of the failure statistics if you manage your project in the right way.

So, hang on tight – you're going to need an effective set of skills and techniques to steer your projects to successful completion. This chapter gets you off to a great start by showing you what projects and project management really are and by helping you separate projects from non-project work. The chapter also gives you some insight into exactly why projects go wrong. That will help you become absolutely determined to do things right and succeed where so many others have failed.



WARNING

This book offers a generic, introductory approach to project management and isn't based on any one method. It describes a structure and techniques that are built into many ways of running projects, but it doesn't cover the procedural detail of those methods. For that, and for help with any accompanying professional exams, you will also need to consult the relevant manuals and exam syllabuses.

Avoiding the Pitfalls

By following a sound approach to the project, you automatically avoid many of the pitfalls that continue to contribute to, or cause, project failure on a mind-boggling scale. You may ask why, if good ways of doing things are out there, people ignore them and then have their projects fail. Good question. People make the same project mistakes repeatedly, and they're largely avoidable. You may have come across the joke by comedian Tommy Cooper:

I went to the doctor and said 'Every time I do this, it hurts.' The doctor said, 'Well, don't do it.'

The following list takes a quick look at the main causes of project failure; you'll find the remedies in later chapters in the book. The list makes for depressing reading, particularly if you recognise some elements in parts of your own organisation. Nevertheless, it gives a good background against which to contrast

successful project management and the approach and techniques set down in this book:

- » **Lack of clear objectives:** Nobody's really sure what the project is about, much less are people agreed on it.
- » **Lack of risk management:** Things go wrong that someone could easily have foreseen and then controlled to some degree, or even prevented.
- » **No senior management 'buy in':** Senior managers were never convinced and so never supported the project, leading to problems such as lack of resource. Neither did those managers exercise effective management oversight (good project governance) as they routinely do in their other areas of responsibility.
- » **Poor planning:** Actually, that's being kind, because often the problem is that no planning was done at all. It's not surprising, then, when things run out of control, and not least because nobody knows where the project should be at this point anyway.
- » **No clear progress milestones:** This follows on from poor planning. The lack of milestones means nobody sees when things are off track, and problems go unnoticed for a long time.
- » **Understated scope:** The scope and the Project Plan are superficial and understate both what the project needs to deliver and the resource needed to deliver it. Project staff (often team members) then discover the hidden but essential components later in the project. The additional work that is necessary then takes the project out of control, causing delay to the original schedule and overspending against the original budget.
- » **Poor communications:** Many projects fail because of communication breakdown, which can stem from unclear roles and responsibilities and from poor senior management attitudes, such as not wanting to hear bad news.
- » **Unrealistic resource levels:** It just isn't possible to do a project of the required scope with such a small amount of resource – staff, money or both.
- » **Unrealistic timescales:** The project just can't deliver by the required time, so it's doomed to failure.
- » **No change control:** People add in things bit by bit – *scope creep*. Then it slowly dawns on everyone that the project's now grown so big that it can't be delivered within the fixed budget or by the set deadline.

That's ten reasons for failure, but you can probably think of a few more. The interesting thing about these problems is that avoiding them is, for the most part, actually not that difficult.

Deciding Whether the Job is a Project

Before you start to think too deeply about how to set up the project, the first thing to do is check whether it really is one. No matter what your job is, you handle lots of work each day: answer customer enquiries, hold a meeting, update the accounts, design a sales campaign or move to new offices. Not all of this work is a project. So what makes something a project?



TIP

Some people say that everything is a project, even making a cup of tea. Don't listen to them. You can think about three things to determine whether a job is a project:

- » Is it a one-off job or something that's ongoing? If the job is ongoing, like producing bars of soap on a production line or taking customer orders, then it's business as usual, not a project.
- » Does the job justify project controls? Project management means incurring some overheads, although you can find advice in this book on how to keep overheads to the minimum. But the fact remains that there will be overheads in a project (such as for planning, approval and control) and some jobs are so small or straightforward that they just don't justify that degree of control.
- » This last one may sound a little weird, and it certainly doesn't fit with the formal definitions; it's the question, 'Do you want to handle the job as a project?' You may choose to deal with a block of work as a project, but I wouldn't – so, in some instances, you have a choice.

Understanding the four control areas

Different project approaches have slightly different definitions of a project; here's one:



TECHNICAL
STUFF

A *project* is a temporary undertaking performed to produce a unique product, service or result.

The 'unique product' is true, but don't let that put you off setting up projects that are effectively repeated, such as organising the annual company conference. Although, strictly speaking, the task is unique each time, you will nevertheless find large areas of commonality with previous projects so you don't need to reinvent the wheel. For example, you can probably adapt last year's plans rather than starting from scratch.

Large or small, projects involve the following four areas of control:

- » **Scope:** What the project will deliver
- » **Time:** When the project will deliver
- » **Quality:** So often forgotten, but an essential control dimension
- » **Resource:** Necessary amounts of staff time, funds and other resources such as equipment and accommodation that the project needs

You need to balance these areas for each project, and you can see immediately why so many projects get into difficulties. You look at a project, think about the four control factors and say to yourself, 'They want that scope, to that quality level, with just that resource and by then? They've got to be joking!' Strangely, organisational managers often commit projects to failure by insisting on unachievable deadlines or unrealistic resources. What's even more strange is that those same managers are then surprised and even angry when the projects inevitably get into difficulties and fail.

Getting the balance right in the early part of the project when you do the main scoping and planning is, obviously enough, essential. Jerry Madden of NASA, the American space agency, produced a great document called 'One Hundred Rules for NASA Project Managers'. Rule 15 is:

The seeds of problems are laid down early. Initial planning is the most vital part of a project. The review of most failed projects or project problems indicate the disasters were well planned to happen from the start.

It's also useful to think about the four areas of control when dealing with change in the project. Chapter 15 includes a 'four dog' model to help you think about the interaction. The four components are the basis of a project's definition for the following reasons:

- » The only reason the project is run is in order to produce the results specified in its scope.
- » The project's end date is often an essential part of defining what constitutes success. In some cases, the project must provide the result by a specified time in order to meet its goal (it's *time-critical*).
- » The quality requirement is a vital part of the balance and may be the most important element, even though many organisational managers are preoccupied with time and cost.
- » The availability of resources can affect which products the project can produce and the timescale in which it can produce them.



WARNING

Quality can be a very important factor, and is sometimes the most important. Unless the project is time-critical, it may be better for the project to deliver slightly late but where everything works properly, than to deliver on time but with lots of faults and problems.

Recognising the diversity of projects

Projects come in a wide assortment of shapes and sizes. For example, projects can:

» Be large or small:

- Building the new Elizabeth Line railway across London at a cost of around £19 billion and taking 13 years to construct.
- Preparing the annual report for the organisation may take you six weeks to complete and may also be a project.

» Involve many people or just you:

- Training all 10,000 of your organisation's sales staff worldwide in the working of a new product is a project.
- Redecorating an office and updating the furniture and equipment is also a project.

» Be defined by a legal contract or by an informal agreement:

- A signed contract between you and a customer that requires you to build a house defines a project.
- An informal agreement by the IT department to install new software in a business area defines a project.

» Be business related or personal:

- Conducting a sales practice review across all of the countries in your international organisation is a project.
- Preparing for a family wedding is also a project – and a very much more pleasant one than the sales practice review.



REMEMBER

No matter what the individual characteristics of your project are, you can use the same four elements of scope, time, quality and resource to think it through.

A PROJECT BY ANY OTHER NAME – JUST ISN'T A PROJECT

People often confuse the following two terms with *project*:

- **Process:** A *process* is a series of routine steps to perform a particular function, such as a procurement process or a budget process. A process isn't a one-time activity that achieves a specific result; instead, it defines *how* you do a particular function every time.
- **Programme:** A *programme* (overseen by a Programme Manager) is a set of projects that need to be coordinated in some way. Perhaps it's a strategic programme to change the whole way the organisation works, or perhaps it's a group of projects with significant interdependencies that all need to be managed so that they finish at the same time. See Chapter 19 for more on programmes.

Understanding the four stages of a project

Every project, whether large or small, goes through a series of stages and this book will follow four. Other approaches may group things slightly differently, and start earlier with an initial idea for a project, but the sequence will still be pretty much the same.



TECHNICAL
STUFF

In this book the successive sections of the project are referred to as *stages*. You may hear the term *phases* used sometimes, particularly in software, but don't be thrown by that because it's just an alternative name.

- » **Starting the project:** This stage involves thinking through the project proposal at a high, 'sketch' level. That includes assessing the business need for the project and its overall characteristics, which will indicate how it should be run. For example, it may be business-critical or very high-risk. You must also give some thought on who should be involved in the project if it goes ahead and check whether those people are available. You'll normally put all of this sketch-level information in a document called an *Outline Charter* (or just *Outline* for short), or your organisation may refer to it as a *Project Brief*. The stage will end with agreeing, or maybe not, to go on to the next stage and prepare a detailed Project Plan.
- » **The planning stage – organising and preparing:** This stage includes developing a full Project Plan that specifies what the project will deliver, the work to be done and the time, cost and other resources required. Then you'll need to work the Business Case up into full detail from the sketch version you

prepared for the Outline. There will be other plans too, such as for how you will control risks and how you will manage stakeholders. You'll normally produce two main planning documents in this stage. There's the Project Charter which covers the strategic parts of the project such as the Business Case, and the PMP (Project Management Plan) which covers the more tactical things such as the Project Plan, the Risk Plan and the Quality Plan. Then you'll need to produce a more detailed Stage Plan for the first delivery stage so the project can move on smoothly if the Charter and PMP are approved. If this all sounds a lot, don't get too worried and that's for two reasons. First, you need to think things through properly if the project is to run smoothly. Second, in a smaller project especially, these plans may be quite short.

- » **Development stage(s) – carrying out the work:** This stage involves doing the planned work. You'll normally split this up into a sequence of delivery stages, though in a very small project you might opt for having just one. During each delivery stage you'll be monitoring and controlling performance to ensure that things are going to plan, and doing the more detailed planning of successive delivery stages as the project continues. Controls used during the stage may include things like progress checks, progress meetings, risk reports and verifying that the required quality is being achieved. Each stage will finish with a *Stage Gate* to check that everything is okay before going on to the next stage.
- » **Closure stage:** This stage involves a clear shut-down of the project work and then assessing the results, assigning project team members to new work, closing financial accounts. You should always carry out an evaluation of how things went and measure the benefits achieved. However, as some benefits might not come on-stream for a while, you may also need one or more further reviews after the project to measure them. Outputs from this stage should also include identifying lessons learned (good and bad things) from this project to help future projects.

For small projects, this entire life-cycle can take a few days. For larger projects, it can take years! Chapter 2 goes through these stages – the life of your project – in more detail so you can see exactly what you need to be doing and when.



REMEMBER

In a perfect world, projects run smoothly and always go exactly to plan. However, because you don't live in a perfect world and because your project certainly won't be running in one, you need to be flexible. When starting to think about your project, you need to allow for:

- » **The unknown and uncertain:** Projects are rarely 100 per cent predictable. The normal territory of projects is that, to some extent at least, you're going into the unknown. Therefore, your plans need to allow for things going off track. Sometimes the uncertain areas are predictable, which falls partly into

the area of risk management (see Chapter 10 for how to assess and manage risks). Sometimes the areas aren't at all predictable, and that comes into the area of contingency. You need contingency; remember Murphy's Law – 'If it can go wrong, it will go wrong.' You can find more about contingency in Chapter 10.

- » **Learning by doing:** Despite doing your best to develop good plans at the front end of the project, you may find later on that you can't achieve what you thought you could or in the way you thought you could. When this situation happens, you need to rethink in the light of the new information you've acquired. Sometimes you can see up front that you won't know how a particular part of the project is going to work out until you get nearer to that point and better information is to hand. Don't worry about that; just point it out clearly in the plans at the beginning.
- » **Unexpected change:** Your initial feasibility and benefits assessments are sound, and your plan is detailed and realistic. However, certain key project team members leave the organisation without warning during the project. Or a new technology emerges, and it's more appropriate to use than the one in your original plans. Perhaps the business environment changes and with it your organisation's whole market strategy. You need to rethink and re-plan in light of these new realities because ignoring them may seriously threaten the successful delivery of your project.

Defining the Project Manager's Role

The Project Manager's job is to manage the project on a day-to-day basis to bring it to a successful conclusion. They will usually be accountable to a senior manager who's the project Sponsor, or to a small group of managers who form a *Project Steering Group* (PSG) – sometimes known as a *Project Board*. The Project Manager's job is challenging (for instance, to coordinate technically specialised professionals who may have limited experience of working together).



REMEMBER

It's important to understand that the Project Manager's position is indeed a role; it's not about status. That's true of all roles in the project and there may, for example, be very senior people working as team members (such as a chief engineer and legal advisers) who are accountable to the Project Manager even though in the normal business they're much more senior. Have a look at Chapter 13 to find out about managing very senior people in your project.

The role of Project Manager doesn't include any of the technical work in the project. If that same person is involved in technical work then it's with a different hat on – that of a team member. The distinction is important because if you're doing teamwork as well as project managing, you must be clear about both roles and only wear one hat at a time. It's all too easy to neglect the management and let the project run out of control because you're so engrossed in the detail and challenges of your part of the technical work.

The Project Manager's role requires 'hard' skills such as planning and costing, but also 'soft' people skills. You can't specialise and cover only the hard skills, for example, with the excuse 'I'm not really a people person'. The next sections cover the main tasks that a Project Manager handles and notes potential challenges.

Looking at the Project Manager's tasks

Your role as the Project Manager is one of day-to-day responsibility for the project, and that might involve so much work that your job must necessarily be a full-time one. Or it may be that the project is smaller and less complicated and project management is just part of your job. Either way, the responsibilities are the same; it's just the scale and complexity that are different.

Here's a summary of the main tasks. Some things on the list involve consultation with others:

- » Sketch out initial ideas for the project, with the justification, outline costs and timescales.
- » Plan the project, including mapping out the controls that will be put in place, defining what quality the project needs and how it will be achieved, analysing risk and planning control actions.
- » Control the flow of work to teams (or perhaps just team members in a smaller project).
- » Motivate and support teams and team members.
- » Liaise with external suppliers.
- » Liaise with Project Managers of interfacing projects.
- » Liaise with programme management staff if the project is one of a group of projects being coordinated as a programme.
- » Ensure that the project deliverables are developed to the right level of quality.

- » Keep track of progress and adjust to correct any minor drifts off the plan.
- » Keep track of spending.
- » Go to others, such as the PSG, if things go more significantly off track (for example, the whole project is threatened).
- » Report progress to the PSG and perhaps to others too.
- » Keep track of risks and make sure that control actions are taken.
- » Deal with any problems, involving other people as necessary.
- » Decide on changes, getting approval from others where you don't have personal authority to make a decision (for example, when changes involve very high cost).
- » Plan successive delivery stages in more detail.
- » Close the project down in an orderly way when everything's done.

So, the tasks will keep you very busy but being a Project Manager can also be very enjoyable if you have things in control. And you get a real buzz when your project is delivered successfully.



Be proactive. Get out in front of the project and direct where it's going. Don't follow on behind the project being reactive and having to fire-fight countless problems because you didn't see them coming.

Opposing opposition

Be prepared for other people to oppose your attempts to use proven project management approaches. The following list provides a few examples of excuses you may come across:

- » **Excuse:** Our projects are all to short deadlines; we have no time to plan.
Response: Unfortunately for the excuse giver, this logic is illogical! With a short deadline, you can't afford to make many mistakes. If it doesn't matter too much when the project delivers, you don't need as good a plan as if it matters very much and time is short.
- » **Excuse:** Project management just means more overheads.
Response: So does corporate management, and that's essential too! But in any case, if you don't manage a project properly and it fails, how much will that cost in wasted time, money and lost benefits?

» **Excuse:** These projects require creativity and new development. You can't predict their outcomes with any certainty.

Response: You can predict some projects' outcomes better than others. However, people awaiting the outcomes of any project still have expectations for what they'll get and when. Therefore, a project with many uncertainties needs a manager to develop and share initial plans and then to assess and explain the effects of unexpected occurrences.

Avoiding 'shortcuts'

The short-term pressures of your job, particularly if you're fitting in project management alongside other work, may tempt you to cut corners. That's not the same as adjusting the project management needs to the project, but rather missing stuff out altogether that you know you really should have done. Resist the temptation to cut corners, because usually doing so comes back and bites you later.



WARNING

Don't be seduced into seemingly easier shortcuts such as:

- » **Jumping straight into building stuff (delivery):** Sounds good, but you haven't defined the work to be done! A variation on this shortcut is: 'This project's been done before, so why bother with planning?' Even though projects can be similar to past ones, some elements will be different. Always check the plan thoroughly.
- » **Failing to check progress at frequent intervals:** Just as when you're walking somewhere you need to check the map from time to time, so too you need to check the project. Otherwise you won't see warning signs and may be a long way off track by the time you notice that something's wrong.
- » **Not keeping the plan up to date:** That includes logging *actuals* such as the time actually taken to do things and the money actually spent. Yes, it takes discipline to keep things up to date, but you'll never be able to control the project if you don't know where you are at the moment.
- » **Not completing the closure stage:** At the end of one project, you can face pressure to move right on to the next. But you must check that the project has achieved what it was supposed to and that you and your organisation take on board any lessons, good and bad, for the future.

Deciding On Your Approach



REMEMBER

Always do what's best to bring your project to successful delivery. If you are using a particular approach, be prepared to modify it rather than follow it slavishly. If that means breaking some 'rules', then break them. That doesn't mean cutting corners or being negligent, but rather agreeing with the PSG that this is best for the project.



TIP

Focus on the project, its characteristics and its control needs. Then decide how to approach the project management based on the specifics of that project. Don't stretch your poor project around some inflexible standard approach carved in stone that doesn't really work for it, either in whole or in part. Instead, fit your approach around the project.

As an example of blindly following a project approach, I once went onto a customer site where the organisation was using a very well-known one. A conversation went something like this, although my comments were phrased a little more carefully, being an invited consultant:

Customer: We know it's stupid for this project but [approach named] made us do this.

Me: That approach is set down in a document. A document can't jump off the table, beat you around the head and make you do something. Why did you do something on your project which you knew to be stupid?

In short, when running projects always keep your brain in gear and be prepared to do the unusual if necessary to help successful delivery.

IN THIS CHAPTER

- » Understanding the lifespan of the project
- » Seeing the different characteristics of each stage
- » Knowing what to do at each point in your project
- » Dealing with project documentation and not letting it take over

Chapter 2

Thinking Through the Life of Your Project

This chapter covers the lifespan of the project from the initial idea through to closure. Sometimes seeing how things such as business justification, planning and risk management fit into a project can be difficult until you have the big picture, so this chapter provides that big picture. It covers what you need to do and at what points, and it also explains a couple of key project documents that you may find helpful.

Using a Set Approach

A lot of projects have a sequence from the first idea through to closure, and this chapter provides you with a clear structure, although it is simple. An alternative is to take a cyclical approach where you develop things bit by bit rather than mostly planning it all up front and then developing it. There's a brief explanation of the cyclical approach in Chapter 18.

If then, after reading this book, you want to move on to a more detailed approach, you can use a particular published one. Some are built into software tools like Microsoft Project while others are developed by consultancies for use with their clients. Then there are PMBoKs (Project Management Body of Knowledge) produced by project organisations with a professional membership; notably the Association for Project Management (APM) in the UK and the Project Management Institute (PMI) in the USA and worldwide.

In contrast, this book sets out the work of project planning and management in a simple and sequential way which suits a lot of projects, and particularly so in many business and technical environments where things must be thought through, constructed and delivered once, not repeatedly.

Breaking the Project Down into Stages

Just about all project management approaches break projects into stages, or you may have heard them called *phases*. Chapter 1 sets out the four main stages in any project:

- » Starting the project
- » The planning stage – organising and preparing
- » The delivery stage(s) – doing the work of the project
- » The closure stage – closing in an orderly way

The four stages are single ones with the exception of the delivery stage(s). You can have two or more of these. In a small project you may decide on a single delivery stage, but in most projects you have several. You can see a project example with two delivery stages in Figure 2-1.

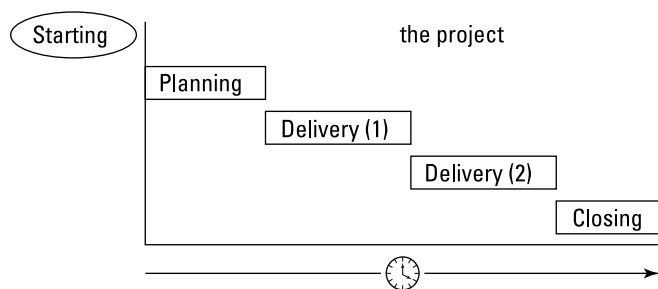


FIGURE 2-1:
The stages of a
project, with two
delivery stages.

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THE UNOFFICIAL STAGES OF A PROJECT

The origin of these unofficial stages is unknown, but they're realistic for many organisations . . . though hopefully not yours!

- Enthusiasm
- Disillusionment
- Panic
- Search for the guilty
- Punishment of the innocent
- Praise and honour for the non-participants

Some say that the first stage, starting the project, isn't part of the project but is rather preparation beforehand to include things such as checking to make sure that the project really is a project. That's a logical argument, and Figure 2-1 reflects that view.

If you go with the idea of starting the project not actually being part of the project, then the project starts for real with the full planning in the second stage. Where you are working with formal budgets and budget codes, the work in starting a project is often financed out of a general fund, and if a project looks to be worthwhile, the specific budget code for that is opened for use from the beginning of the second stage.

Appreciating the advantages of stages

Breaking the project into stages has some big advantages; here are just four:

- » While not taking away from the big picture of the project, it allows everyone to concentrate on one part of the work at a time. One person described it as 'looking at one stair instead of the whole staircase'.
- » It breaks up the detailed planning into convenient blocks, and you plan each delivery stage in detail just before that stage starts with the benefit of the very latest information available.
- » It allows the Sponsor or Project Steering Group (PSG) to stay in firm control of money and staff resource by authorising one stage at a time.

- » It provides a clear point when each stage ends, usually called a *Stage Gate*, for checking that the project is still in control, is heading in the right direction, and remains viable and worth continuing.

Deciding on the number of delivery stages

How many delivery stages should you have? Well, how long is a piece of string? Actually, you can answer the question about the string: it's exactly twice as long as half a piece. As for the delivery stages, it all depends.

The first thing to say about delivery stages is that they're not all the same length. They're not timed units of, say, one month long. Rather, delivery stages reflect two main criteria:

- » Blocks of work that are cohesive and where things belong together
- » Amounts of work that the Sponsor or PSG is willing to authorise at a time – the amount may vary at different points in the project according to, for example, the degree of risk in that part of the project

A FEW STAGE DECISION FACTORS

Some factors to bear in mind when deciding on stages:

- Stages should consist of sensible, cohesive blocks of work
- You might fix a maximum stage spend; for example, no stage is to cost more than £1 million, and you also need a stage break just before that major investment in equipment to be sure the project is still okay
- You might set a maximum time; for example, no stage is to be longer than three months
- Think about important business events; for example, financial year end or the publication of a major strategy review for the company that may trigger a substantial change to the project
- Consider how business-critical the project is and the degree of risk involved
- Who the Project Manager is: if the Project Manager is very experienced, then the Sponsor or PSG may be happy with quite long stages and few of them, but if the Project Manager is inexperienced, then the PSG may want shorter stages and so more of them

As to the number of stages overall, that's a control decision taken by the Sponsor and other PSG members and it's very like supervision in general management. How much does your boss supervise you and how much do you supervise your staff? The level of supervision depends on a range of factors, including human factors, and it's exactly the same with a project. Partly because of human factors, no-one can say how many delivery stages there must be in a particular type of project. A more controlling PSG may decide on four stages for a project. A more laidback PSG might decide to have just two.

Understanding the Four Main Stages

The rest of this chapter focuses on each of the stages in turn, looking at what you need to do in each one and the main project management documents you deal with.

Starting the project

Don't miss out the stage, or pre-project work, of starting the project and here are three reasons why:

» **You need to know whether the project idea is worth pursuing.**

Unfortunately, not all ideas for projects are good ones. Far too many projects start that simply shouldn't. A common problem is that over-enthusiastic managers really want the project and have become emotionally attached to it (it's their 'baby') or staked their reputation on it. The situation is made worse where they have underestimated the cost and time, and overestimated the business benefits. Rather than rushing into full planning, having a quick look at the idea makes sense before committing to it and spending significant time and resource to planning.

» **You need to get basic information together.** You won't find it easy to plan the project if you haven't established, at least in outline, what the project is about, what it is to deliver, what resource is available and any constraints such as on the delivery date.

» **It's best to get everyone with an interest to agree to the idea before going on to full planning.** You may be tempted to leap straight in to full planning because you think that will save time. However, you'll often find that people (such as PSG members) start to disagree even with the basics when they check the plans because they have very different ideas about the project even though they may be using the same words.

Habit 2 set out by Stephen Covey in his book *The 7 Habits of Highly Effective People* (Simon & Schuster, 1989) is: 'Begin with the end in mind'. To use Covey's illustration, before you climb a ladder, make sure that you have placed it against the right wall. Starting the project is checking the ladder. If everyone agrees that it's in the right place, you can climb up doing the detailed planning. That's much better than climbing to the top of the ladder and then finding out it's leaning against the wrong wall so you have to climb down and do a lot of the work all over again.

Understanding the characteristics

The main thing to remember about starting the project is that you should move quickly. A common mistake is to confuse starting the project with the planning stage, which does take a while. The work in starting the project may take you a couple of weeks but it's more likely to be a couple of days and may just be a couple of hours, even for a fairly substantial project.

Now imagine for a moment that you're a rich and successful Project Manager (or perhaps you don't have to imagine it) and you want a huge house built for you. You go to an architect and say, 'I'd like you to build a house for me please.' What does the architect reply? Is it 'That's fine, I'll come back to you in eight weeks with some scaled drawings'? No, the architect says, 'Please take a seat and let's talk about what you have in mind, and we'll do a sketch.' The architect starts with a sketch, not a beautifully finished scale drawing. So it is with starting the project. You do a sketch 'on the back of an envelope' to check whether the project idea is a good one and whether it's worth going on to full planning.

Knowing what to do

When starting the project, think roughly what the project is and whether it's worth going forward to full planning. Check out seven key areas:

- » **Objective:** What exactly is the objective of the project? To save money perhaps, or speed up the ordering procedures? You need to discuss the objective with people who have an interest in the project to make sure that they're clear on the objective(s), have thought things through and are then agreed.
- » **Scope:** What's the project intended to cover and, usefully, what won't it cover if some areas are unclear? What will the project finally deliver? Scope is different from the objective. The objective may be to simplify your accounts procedure, but the scope shows that invoicing won't be included in this review, and the project will cover only our European offices because the finance regulations are different outside Europe.

- » **Resource:** Be brutally realistic with this one. How much do you really expect the project to cost? How much staff resource will the project need, and will it require particular skills? For example, if the project needs significant input from engineers and your engineers are already hard pressed, that's a major consideration when deciding whether to go ahead. The resource figures are very much ballpark ones at the moment because the planning has yet to be done.
- » **Time:** How long is the project likely to take, on the assumption that resource can be provided when it's needed? Again, this is a ballpark estimate at the moment.
- » **Justification:** Why do you want to run the project? Perhaps this is a no-brainer because the project is mandatory – head office has instructed that each regional office runs a project to review its local client base. Normally, though, the project is justified because of benefits such as greater market penetration, lower costs or faster customer service.
- » **Risk:** Does the level of negative risk make it look like the project is worth it, or is the risk level too high for only a limited benefit?
- » **Constraints:** Will anything influence the way that the project is run, or even what it delivers and when? For example, it might be time critical – if the project can't be delivered by the end of the financial year, then don't bother. You should also think about the required quality level of the project, such as whether it's 'quick and dirty', safety critical or, usually, somewhere in between.

Thinking about management documents

Unless you have a very small project for which you can keep the full detail in your head, and nobody else needs to read anything about it, you're going to have to write some stuff down. The trick here is to keep documents to the minimum and to 'think wide' about how you communicate information. You can find more on documents in the next section.



WARNING

Projects often seem to breed paper, or the electronic equivalent. One major project method has come under fire where it has defined lengthy and very detailed documents. Some have gone as far as accusing the method of being bureaucratic to the point of actually working against projects by slowing them down unnecessarily. Remember that other people need to read and check everything you write down, so think very carefully about what you really need. Keep your project documentation trimmed down or you'll drive up project costs and run the risk of unnecessarily pushing out the delivery date.

When doing the work of starting the project stage, you'll need to write down the information you find out in the form of a document that others, such as Project Steering Group (PSG) members, can read and then approve or reject. Different approaches call this document different things, and you may have heard of one or two. The terms include Outline Charter, Project Terms of Reference and Project Brief.

Whatever label you attach to it, the Outline Charter (or just 'Outline' for short) is exactly that – an outline. Don't get too detailed. The Outline covers enough to support the decision as to whether to go on to the next stage and full project planning or to stop right here. Although the information is in a document, you may well discuss the content in a meeting or give a short presentation to the decision makers and give out the document as a backup.

The planning stage – organising and preparing

Oh, so the members of the PSG loved the idea, did they? Well done on your presentation of the Outline. Okay, on with the next stage then: roll your sleeves up and get down to the more substantial work of project planning.

Understanding the characteristics

The planning stage gets you ready for the delivery stages of the project. It covers the high-level planning of the whole project, and also the detailed planning of the first delivery stage. If the Sponsor or PSG says 'go' at the end of the planning stage, the first delivery stage can start immediately because the detailed Stage Plan for it is already in place.

When thinking through this stage, balance the plans carefully against the control needs of the project. For example, you'll want more risk management if the project is high-risk than if it's low-risk. You'll want to think more about handling staff change for a very long project than for one which is quite short and there probably won't be any staff change. You'll need more detailed plans if the project is very complex than if it's very simple.



WARNING

Think through all the areas of the project and plan carefully. A major cause of project failure is poor plans or a complete lack of plans. However, don't go to the other extreme of developing excessively detailed plans for everything. Over-planning brings with it three problems:

- » You spend longer producing the plan than you should.
- » You need to maintain these over-complicated plans throughout the project, and that takes up even more time.
- » Unless the project is very short and clear, things will change and you'll be faced with a lot of work later to adjust all the fine detail you set down at the start.



REMEMBER

Start simple and only get complicated where really necessary in order to exercise sufficient control over the project.

Knowing what to do

For the detailed planning work, you'll need to investigate a number of areas, and usually that means consulting other people. You may be a subject expert and need little advice, but Project Managers don't necessarily have to be subject experts and so often need to get input from the people who are.

Some of the areas will be familiar from the Outline which you produced when starting the project. That shouldn't come as a surprise though, because the Outline was a sketch plan and now you're working those same areas into more detail and with greater precision to form the 'scale drawing' for the project. Be careful here to strike a good balance: you don't want unnecessary overheads, but you do want the project to be properly defined and effectively controlled.



REMEMBER

The following items reflect the main areas to think through. This section is an overview, but watch out for the cross-references to later chapters of the book where you can find the full information when you're ready.

- » **Scope:** You sketched this out in the Outline, but now it's time to finalise the scope. Say exactly what the project will cover and deliver and also, if you identify areas that could otherwise be misunderstood, what it won't cover. Chapter 3 has more on this.
- » **Business Case:** This is an extension of the high-level justification in the Outline. The Business Case sets out the full justification of the project, including its costs, and also defines the business benefits that the project will deliver and the way in which those benefits will be measured. Please see Chapter 3 for much more on the Business Case.
- » **Procurement:** How much will you need to buy in terms of both goods and services? Check whether you will need contracts for some or all of that, and make sure that you're familiar with your organisation's contract procedures. Check too for non-contract procurement procedures, because sometimes they take time too. You must allow sufficient time in your plans for procurement, and in the case of contracts that could be months.

- » **Project Plan:** The Project Plan is a high-level plan of the delivery stages and closure stage, although the closure stage may be particularly tentative at the moment. The Project Plan sets down what the project will deliver, the activities, and the staff resource and finance involved. Part 2 of this book gives lots of practical advice on planning and some really powerful techniques to help you.
- » **Risk:** You should look at the risk involved in the project and also the means of controlling it. Chapter 10 helps here with some useful techniques. Some people question whether you really need risk management in every project, even the very small ones. Yes, you do.
- » **Quality:** You've already indicated in the Outline the quality level needed for this project. Now is the time to establish exactly how you'll carry the quality through into the deliverables, what degree of control you need to exercise, and how you'll audit to make sure that the required quality requirements have been met. Your thinking about quality includes listing any standards that you need to comply with. Chapter 11 covers project quality management in detail.
- » **Roles and responsibilities:** Who should do what in the project? This may have been decided when starting up, but it's worth setting down roles and responsibilities now, with any adjustments. In that way, everyone involved knows what they should be doing on the project and, importantly, what everyone else should be doing as well. That helps avoid communications problems where things fall down the gaps. You can read much more on roles and project organisation in Chapter 12.
- » **Communications:** Hard on the heels of roles and responsibilities comes communications. That's no coincidence, because a lot of comms problems start with people being unclear about who's doing what. You should think through the communications carefully, because this area is a major source of project problems. In fact if you look at surveys of project failure factors, communications is almost always in the top five listed causes, and frequently occupies the number one slot. Chapter 16 goes into full detail.
- » **Controls:** For this section, consider what controls the project needs. For a very small project don't get carried away, because you probably won't need many controls at all. In a larger project though, you should think through the controls very carefully. Have a look at the nearby sidebar for three specific things to consider.

EVERYBODY, SOMEBODY, ANYBODY AND NOBODY

Where there is a lack of clarity on roles and responsibilities, things can 'drop down the gaps'. This is a story about four people named Everybody, Somebody, Anybody and Nobody.

There was an important job to be done and Everybody was sure that Somebody would do it. Anybody could have done it, but Nobody did it. Somebody got angry about that, because it was Everybody's job. Everybody thought Anybody could do it, but Nobody realised that Everybody wouldn't do it. It ended up that Everybody blamed Somebody when Nobody did what Anybody could have done.

Author unknown

CONTROL AREAS TO CONSIDER

Some areas to bear in mind when considering controls include:

- **Project Manager authorities**, such as spending limits and decision-making limits on things like change and adjustment of the project
- **Reporting**, covering the frequency and content of reports such as those for progress, finance and risk
- **Flexibility**, including whether the Project Manager can proceed with a certain amount of a following delivery stage (percentage, value or time) if a short delay occurs in getting the PSG together for a Stage Gate

Thinking about management documents



REMEMBER

You should document all planning and control areas, albeit simply on small projects. On larger projects, expect the documentation to be more substantial. Remember the balance of having sufficient information to define and control the project but not more than that.

There are a couple of documents in which you should record your plans and decisions about the running of the project. Most approaches have a *Project Charter* for the more strategic stuff such as the Business Case and the scope, and then a *Project Management Plan* (PMP) which covers the more tactical things such as the Project

Plan, Risk Plan and Communications Plan. Some approaches combine the two sets into a single document, although arguably that isn't quite as good, and call it the Project Framework, Project Definition Document (PDD) or Project Initiation Documentation (PID).

For a suggestion on the contents of the Charter and PMP, have a look at the nearby sidebars. You'll recognise some of the content as covering the same ground as the Outline which it does, only in detail now.

The documents have three important uses:

- » **As a definition** to say exactly what the project is and how it will be controlled
- » **As decision support** to provide the Sponsor or PSG with the information needed to decide whether to start the delivery stages and then at each Stage Gate to decide whether to continue to the next stage or to stop
- » **As an ongoing reference** for those involved in the project at the outset and others coming later on who need to know what the procedures and controls are, for example to submit a change request or report a new risk

So, the documents are good value for money, and it is worth a bit of effort to get them right.

Along with the Project Charter and PMP, you also need the Stage Plan for the first delivery stage, so that the project can proceed without undue delay if the PSG gives the go-ahead. The Stage Plan is a more detailed plan than the one at project level, obviously enough. You can find more on the levels of planning in Chapter 9.

The delivery stages – carrying out the work

This is where the main project work is done, and you'll usually break that down into two or more *delivery stages*. Only a small project would have a single delivery stage.

Understanding the characteristics

The delivery stages are where all the teamwork is done to build project products and test them, so it's the main part of the project despite it being, in project management terms, the simplest in concept.

THE PROJECT CHARTER

The Project Charter covers the more strategic parts of the project planning and must be kept up to date throughout the project. It is especially important to the PSG initially to decide whether or not to continue with the project and move into the delivery stages. After that, as mentioned earlier, the PSG will use the updated Charter at each Stage Gate to help decide whether the project remains worthwhile and whether it should continue into the next delivery stage.

- **Objectives:** The agreed objectives for the project.
- **Scope:** What's included in the project, and sometimes what's excluded. The scope statement should also include a list of requirements and for each requirement the source, such as something the management board has instructed to meet a corporate objective or a law which the project must comply with.
- **Project product:** A clear statement of exactly what the project will deliver at the end, and perhaps part way through if one or more products is to be taken into operational use during the project.
- **Constraints:** Anything that affects how the project is run and delivered, such as security, a fixed delivery date for the project, or limitation on the type of equipment used.
- **Acceptance arrangements:** How the project deliverables will be handed over at the end, or even during the project if there are multiple deliveries. This should include who is responsible for accepting stuff and, in more formal projects particularly, how they will do that such as by signing a handover document.
- **Business Case:** The justification of why the project is being run and details of the benefits.
- **Roles and responsibilities:** Who's doing what in this project. You can normally set this down in a simple organisation chart.

Knowing what to do

In the delivery stage or stages, you give work out to teams, get progress information back in, and generally keep track of where the stage is. Is the stage going to plan? If the stage is going off the plan you must establish why that is and take any necessary action to get it back on track. That adjustment is part of the routine 'steering' that you need to do throughout.

THE PROJECT MANAGEMENT PLAN (PMP)

Think of the PMP as a folder containing other things, even if you keep it as a single document. It complements the Charter by covering the more tactical parts of the planning. The PMP is produced and used mostly by the Project Manager, but remember that others must consult it too and, as the overall owners of the project, the PSG members must check it to be sure that the plans and controls are appropriate for the project. Many of the plans require input from PSG members, such as on what staff resources are available and how much risk they are willing to accept. Like the Charter, the PMP must be kept up to date throughout the project.

- **Project Plan:** The high-level plan covering all of the project from the first delivery stage to the end of the closure stage.
- **Quality Plan:** The level of quality that's needed, how the project will achieve the quality, and how the project will be audited to be sure that the quality has indeed been achieved.
- **Risk Plan:** How risk will be controlled in the project.
- **Stakeholder Plan:** If your project involves significant stakeholder management, a plan of what actions are needed for managing the different groups of stakeholders involved.
- **Communications Plan:** What information will be moving about and how it will be communicated, including reports within the project (which may be verbal).
- **Procurement Plan:** If your project involves a lot of procurement.
- **Control procedures:** A clear statement of other controls (you have some already, for example in the Risk Plan) such as for problem reporting, handling changes and for version control. This section also can set down the Project Manager's authority limits and the procedures for referring things to the PSG, and even beyond into the organisation.

If things go off track by more than an amount set by the Sponsor or PSG, then, just like in general management, you need to refer the matter back for discussion and a decision.



REMEMBER

You also need to make allowances for unplanned stuff. If you've used any time management approach, you know that you should always make a time allowance for unexpected things, or your schedule falls apart pretty quickly. The same holds true for projects, so, to use the words of *The Hitchhiker's Guide to the Galaxy*, expect the unexpected.

In particular, people working on the project need to refer things to the Project Manager such as details of problems, change requests and new risks. You must allow time, and perhaps the time of other people, to deal with them.

Then, towards the end of each delivery stage, you need to do the more detailed planning of the following stage and update the Project Charter and PMP as necessary. For example, some of the projections of benefits in the Business Case may now be different because the business environment has changed, and almost certainly some of the risk factors will have changed.

Thinking about management documents

During the stages, you produce regular progress information for the Sponsor or PSG, and towards the end of each stage, you also produce a Stage Plan for the following stage.

PROGRESS

It's important for a number of people, both inside and outside the project, to be kept up to date on the project's progress. The Communications Plan, part of the PMP, can include quite a list of people who need to know about progress, but perhaps at different levels of detail. The Communications Plan will set that down. So think about:

- » Team Leaders – to keep track of the big picture
- » The Sponsor or members of the PSG
- » Programme Manager – if the project is part of a programme
- » Business managers of areas that the project affects
- » Stakeholders – perhaps people in other departments and organisations who have an interest, even customers
- » Project Managers of interfacing projects – to know how progress on this project affects theirs

STAGE REPORT

Unless the project is small and informal, you'll usually have to produce a report at the end of the stage (perhaps in the form of a presentation with notes) to say how it went and what the final figures are on cost and time. You may need to include more information such as about the delivery of quality and productivity of the teams – you'll have established the exact detail when thinking about the communications and writing the Communications Plan.

The closure stage

The final stage of a project is to shut it down. Normally, things don't just stop dead when you complete the final delivery stage, but rather you have work to do on the project management side to close down the project and release resource, and on the technical side to deal with any teething problems with and adjustments to the things that the project delivered. This section is a summary and you'll find much more in Chapter 17.

Understanding the characteristics

In most cases it makes sense to have a separate stage for closure because of the change in the nature and pace of the project. In closure things are going to be a bit unpredictable, and that's the reason that the view of closure in the Project Plan is tentative. As you approach the end of the final delivery stage, everything is much clearer and you can plan the closure work with confidence.

Knowing what to do

In closure, you need to evaluate the work required to sort out any teething problems and then decide how to wind down the work and, where necessary, hand over to operational support. You should have already agreed how the handover will be done and recorded it in the Charter. It may even be subject to legal arrangements such as on the handing over of a new building. You may also be releasing staff and facilities such as rooms and computers.

Then, on the project management side, you need to think through what documentation will be required in the future, and store it. You should also check for things to pass back into the organisation, such as ongoing maintenance schedules and information about things like risk management which are to carry on into the working life of the project deliverables.

You should also report the outcome of the project (again, unless you're in a very informal environment) with a Project Closure Report to give final costs and the level of any business benefits that you can already see and measure at the end of the project. You should also pass on any lessons you learned in the project – both good and bad – so that future projects can benefit from your hard-won experience. Chapter 17 has more on documentation.

IN THIS CHAPTER

- » Setting down clearly what your project will cover, but also what it won't
- » Writing a Business Case – the justification for the project
- » Understanding the different types of benefit
- » Avoiding the pitfalls of Business Cases

Chapter 3

Defining the Scope and Producing a Business Case

All projects are created for a reason – you identify a need and devise a project to address that need. You then determine the success or failure of the project by how well it meets that need and, for projects justified by benefits, whether it delivered the business benefits that justified expending all the effort on the project in the first place. This chapter helps you develop clear boundaries for the project – the *scope* – and then set down the justification, or *Business Case*, for running the project.

The scope and Business Case go hand in hand. Each affects the other, so thinking about them together is helpful. The Business Case lists the business benefits of running the project and it may be worth adjusting the scope in order to get better business benefits. Equally, it may be advantageous to chop another part of the project out because it isn't absolutely necessary and very few benefits exist in that part to offset the work involved – it just isn't worth it. The scope, then, is the 'What?' and the Business Case is the justification, the 'Why?'



Keep the business perspective in the forefront of your mind. Not just in the planning stage when you are working on the detailed Business Case, but throughout the project. When someone wants to make a change, for example. It may be nice, a user may really want it and the team may support the idea because it will be interesting to do. But is it worth it? Will it give value back to the business – whether that business be private, public or not-for-profit sector – that justifies the time and money needed for it? You are not there to do the project because it is fun (though it may be). You are not there to do the project because it's a challenge (though it may be). You are there to deliver a project that will help the business. That's the business perspective and, when the chips are down, it's the real focus of nearly every project.

Although you may need to adjust the degree of formality from project to project, you shouldn't ever leave out the work of defining the scope and justifying the work. You always need to be clear about what you are covering in the project, and you should always be very clear about why you want to do that work – well, unless you're intent on wasting your effort and that of other people and then delivering the wrong thing as a crowning glory.

For the Business Case in particular, you sometimes have to be more formal than at other times. But you always need to write things down in an ordered way if someone other than you has to approve the project. You may even have to work to a set format if you'll have to go through some organisational approval process such as getting the go-ahead from a finance committee. This chapter shows you what's involved, helps you think about the Business Case clearly, outlines a few techniques, and even helps you side-step some Business Case bear traps.

Defining the Scope

The *Scope Statement* is a written statement that sets down what the project will cover, and sometimes also what it won't. Both the people who requested the project and those managing it (including the Sponsor or Project Steering Group) should agree to the Scope Statement before actual project work begins.



Although, obviously, stating clearly what the project will cover is important, additionally setting down what it won't (*negative scope*) is often really helpful. The negative scope isn't the whole world outside the intended project, but rather areas where people could misunderstand and assume that things are included when in fact they aren't.

Managing expectations and avoiding disappointment

It's all too easy to misunderstand the scope for some projects. The misunderstanding isn't necessarily because the Scope Statement is unclear. Rather, it comes from the age-old problem of people seeing what they expect to see, even if it isn't there, and making unconscious assumptions. Even worse is when busy managers sign off the Scope Statement having only skim-read the headings while grabbing some water from the cooler between meetings. What's that? Oh no, not in your organisation, of course. Your managers are always very thorough and read important documents with great care, but in *other* organisations . . . !

At the end of the project, a common problem is that people look at the deliverable, such as a new computer system for accounting, and a conversation develops with the development team along these lines . . .

'I can't see the invoicing function on the main menu.'

'Err. The system doesn't do invoicing. We never set out to include invoicing.'

'What? You can't have an accounts system without invoicing!'

'Well, actually you can. This is one.'

'But we need invoicing.'

'Look, here's the Scope Statement from the Project Charter listing all the functions we were going to include, and here's your signature on the bottom where you signed the statement off to agree it, and it doesn't mention invoicing . . . does it?'

'Oh no, you're right. It doesn't . . . but we need invoicing!'

How simple would it have been to say in the Scope Statement right at the beginning of the starting the project stage (see Chapter 2 for more on stages), that the planned system will include this, this and this, but exclude that, that and invoicing? Defining the scope properly is partly about managing expectations. People are clear about what they'll be getting when the project is delivered, but are also clear on what they won't be getting.

Challenging the scope

The negative scope could well lead to a challenge. Continuing with the invoicing example from the last section, if the scope says that the new accounts system won't include invoicing, this may then be challenged by those asking for the system, who say that actually they need it included. Indeed, if time and funds are limited, they say, they'd rather have invoicing than a couple of the other functions listed. That leads to a change of scope, and the project will be all the better for it.

You're better off discussing and changing the scope when developing the Project Charter (see Chapter 2 for more on this document) than in the depths of the project when it slowly starts to dawn on those receiving the project deliverables that they aren't getting quite what they wanted. Better still, however, is discussing the scope when producing the Outline Charter in the starting the project stage. When you discuss and adjust the project boundary while the plan is still a sketch, making changes requires relatively little work. Clearly, making changes after you're into more detailed planning is going to be a much bigger job.

Understanding the dimensions of scope

A dictionary definition of scope is 'the extent of the area or subject matter that something deals with'. In your case, the 'something' is the project. So what's the extent of your project? You can often define the scope in one or more of the following ways:

- » **Deliverables, or products:** In many projects, setting down scope in terms of what the project will deliver is helpful. Yes, the end product, but also any significant products along the way.
- » **Functions:** This is useful for new or revised systems (whether they're computer systems or procedural ones). Which functions will the project cover and which won't it cover?
- » **Geography:** Which areas of the organisation will the project cover, for example just your offices in the Northern Region or just three departments at your corporate headquarters?

Being clear

When thinking through the dimensions of scope and writing it all down, think about who'll be reading the Scope Statement in order to approve it. It's no good filling the Scope Statement with all sorts of technical detail if it must be agreed by people in the business area who don't understand such things. The scope must communicate, and must do so particularly to the Sponsor or Project Steering Group (PSG): they must be able to sign off the Scope Statement to say, 'Yes, that's the project we want, and that's what we're willing to pay for.'

On the other hand, the Scope Statement must be specific, so don't shy away from detail where you need to spell things out. If that includes some technical stuff, then put in a plain-language explanation. Those reading it know that they may need to get some technical confirmation that the information is correct. Sponsors

don't necessarily need to struggle with the fine detail that the equipment will be covering amplitude-modulated signals on frequencies up to 8.8 gigahertz, but attenuated to avoid excessive output on the fifth and seventh harmonics and especially, of course, the seventh.



REMEMBER

Put simply, if you're asking people to sign off a Scope Statement, make sure it's one they can understand and so confirm. It's in nobody's best interests, including yours, for Sponsors to sign off documents that they don't understand and are having to take on trust.

Considering the requirements

Some of the scope is likely to come from requirements, and where that's the case it's more than a bit helpful to list them as part of the Scope Statement, along with the source of the requirement and, perhaps, the priority. Some requirements may come from users, while others could come from corporate management, such as that the project must include one particular thing to meet an objective on the five-year company plan. Other requirements may be to meet legal constraints.

When you first think about the scope of the project and talk about it with others, you often find that not everything is essential. In your new car project, wheels are pretty important but lights in the footwells, while nice, probably aren't essential. It can be a real help, then, to prioritise the requirements on the list.



TIP

Some use the MoSCoW approach to help with prioritising:

- » **Must have:** The essentials; the project must address all these elements.
- » **Should have:** High priority, but not absolutely essential.
- » **Could have:** Useful and worthwhile, but lower priority.
- » **Won't have:** Something suggested but now not considered worthwhile, or that will be held over, perhaps for a later enhancement project.

Producing a Business Case

Having got the scope clear, although you may go back and adjust it, it's time to look at the justification for the project – why your organisation should run it. This is the Business Case.

Getting to grips with the basic contents

You can adjust the contents of the Business Case to suit the project and also any organisational standard or other guidance you're using. Here are the basic contents that you'll need as a minimum for any project:

- » **Benefits:** Information on the benefits, but usually also when they'll come on stream, when they'll be measured, buy whom and how.
- » **Context:** For example, the fit with the organisational five-year strategy or just to say it's a small stand-alone project to improve performance in a particular area of the business.
- » **Cost:** Ballpark at first, but kept up to date as better information comes to hand.
- » **Justification:** Is the project solely benefits driven, or does it have any element of compliance, such as there being a legal requirement to run the project?
- » **Timescale:** How long the project is expected to take. The timescale can be a rough estimate at first, but updated from better information later.

Keeping the Business Case up to date

The Business Case is one of the most important documents you'll have in your project. It shows the justification for doing the project in the first place, but it's then important when monitoring the ongoing viability of the project. If, for example, part way through the project, circumstances change and the benefits projections now fall through the floor, you probably want to shut the project down; but don't forget that the project may be justified on more than benefits. It follows that you must keep the Business Case up to date throughout the project if it's to remain helpful in monitoring the viability of the project and as an aid to decision-making. In UK government departments, a common misunderstanding over Business Cases was that they were something you did at the start of projects in order to secure the funding and then quietly forgot all about. In a study on IT project problems in government, the McCartney Report mentioned this misunderstanding and used a great phrase.

The business case needs to be seen as a living document that will run for the lifetime of the project, not just as a mechanism to obtain funding. It is only by using the case as a tool for monitoring progress that it is possible to make sure the intended benefits of the project or programme are realised.

The McCartney Report

– Successful IT: Modernising Government in Action

So, then: a ‘living document’.

Keep a copy of the Business Case when it’s approved at the start of the project and again at every approval point such as a Stage Gate (the end of a stage; see Chapter 2 for more). But keep the Business Case up to date and so immediately usable to help check the impact of changes to the project and changes in the environment in which the project is running.

Figuring out why you’re doing the project

When you take on a project, *why* you’re doing it may seem obvious at one level – because your boss told you to. The deeper question, though, is *why* the organisation wants the project. If you’re down the line a bit from where the project idea started out, you may need to go and talk to a few people to help you get the justification clear.

Identifying the initiator

Find out who had the original idea that led to your project because often they will be fairly clear on why it’s wanted.

Talking to end users

The people who’ll use what the project delivers ultimately generate the benefits of the project. It’s usually helpful to get their assessment of the advantages of the project and the sort of benefits it will deliver.

Checking documents

You may also find helpful information in documents such as:

- » Correspondence and e-mails referring to the project
- » Minutes from division, department and organisation-wide planning and budget sessions
- » Reports of planning or feasibility studies

Recognising others who may benefit from your project

Although they may not have initiated the idea, other people may benefit from your completed project. They may also be able to contribute information to help with the Business Case. Think about people including:

- » Business partners (or other agencies if you're in the public sector)
- » Clients and customers
- » Operational staff who'll use what your project will deliver
- » Suppliers

Identify these other people as soon as possible to determine what their particular needs and interests are and how you may need to address them. These additional people may include those who:

- » Know the project is likely to run and have expressed an interest in it
- » Know the project will happen but don't realise it can benefit them
- » Are unaware of your project

To help identify these additional people you can:

- » Review written materials related to your project
- » Consult with your project's supporters
- » Encourage everyone you speak to about the project to suggest others who may benefit from it



REMEMBER

As you identify and note down people who can benefit from your project, you can also note down those who'll oppose it. This all helps with your stakeholder analysis, which you'll find more about in Chapter 4.

Understanding project justification

There's a tendency for senior managers to think that all projects must have business benefits to be viable. That's not right thinking, though. Your project may be soundly justified for other reasons. Here are the main types of justification:

- » **Business benefits:** Things such as cost savings, better customer service, improved profits, better market penetration.

- » **Compliance:** Relates to projects that are compulsory, even if they bring no business benefits. This includes legal and organisational compliance.
- » **Maintenance:** Something just has to be done, like the replacement of all the old dehumidifying systems in our file store of very old and valuable documents (a real example). It doesn't offer any business benefit in the usual sense and it isn't required by law; it just has to be done.
- » **Enabling:** Again the project doesn't provide any business benefit in the normal sense, but does something that allows other projects to run, and those projects will deliver business benefit.

You can, and often do, have a hybrid Business Case that has more than one type of justification. For example, your organisation may have to run a project for legal compliance, but the project will nevertheless deliver some business benefits. Although those benefits won't completely pay for the project, they'll at least offset some of the costs.

Understanding benefits

Within the justification, it's important that you appreciate the differences between three distinct types of benefit. They're illustrated in Figure 3-1 and you'll notice that the first divide is between benefits that are quantifiable and those that are non-quantifiable. Non-quantifiable means that the benefit can't be measured meaningfully.



WARNING

Don't fall into the trap where you think something is a quantifiable benefit because you can measure it, but fail to notice that your measure is unreliable or even directed at the wrong thing. There's a lot of fuzzy thinking around the area of quantifiable benefits and I've seen some very dodgy Business Cases resulting from it.

Understanding 'Quantifiable – financial gain'

A financial gain is where the organisation will save real money. If you change an old machine that keeps breaking down for a shiny new one, the maintenance costs will be substantially less. The saved money will be in the maintenance budget, and it's real; you're going to get that cash saving.

Understanding 'Quantifiable – other measurable gain'

This type of benefit is where you can measure something, but the benefit won't be measurable 'real money'. An example is a project that will reduce the despatch

time for customer orders by implementing faster procedures and a more logical warehouse layout. You might argue that the better service will lead to more orders so it's a financial gain, but you can't say which orders have been placed solely because of the better service . . . so it isn't. However the service improvement from a three-day despatch to a six-hour despatch is measurable.

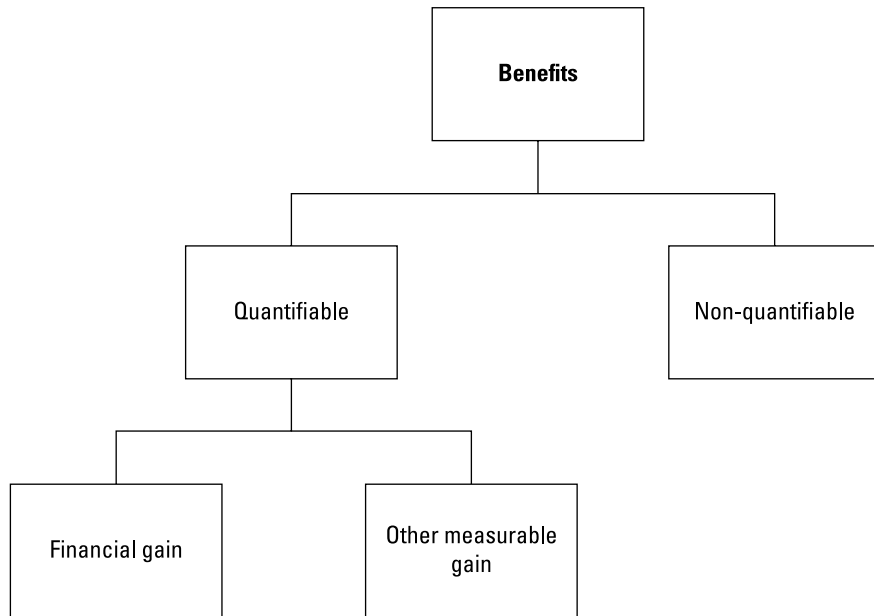


FIGURE 3-1:
Types of benefit.

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Strangely perhaps, you may measure some of these 'other measurable gain' benefits in cash terms, even though they're not a financial gain. Now before your head starts to spin, that requires some explanation. Suppose you work in a police force and your project will deliver a new, improved administrative procedure that will save each of your front-line police officers 30 minutes admin time a day. It's unlikely that the force will be reduced because of that so you won't save 'real money' and see a lower figure for salary payments on your police force's bank statements. It's just that the front-line police officers have half an hour more each day to be doing what you really want them to do, which is policing not admin. It's a benefit which you can express in money terms by multiplying the average hourly rate of the police officers by the number of hours saved. The project has saved £x worth of staff time, but the salary spend hasn't been reduced so it's not a financial gain. Got it?

However, if the front-line officers are always working overtime, and getting paid for it, then the saving will be a financial gain to the extent that it reduces the

spend from the overtime budget. Now your head really may be starting to spin, but you see the need for clear thinking when it comes to benefits. You must be absolutely clear on the distinction between financial gain benefits and ‘other’ because your CEO (or Chief Constable) and Finance Director certainly will be, and they’ll be particularly interested in the financial gain variety.

Understanding ‘Non-quantifiable’

As the name suggests, you can’t measure this sort of benefit, at least not meaningfully. The benefit may be very worthwhile, though. An example is staff working conditions. If the project improves the factory or office environment, then that’s worthwhile. But what’s it worth in money terms? Can you prove that people who may otherwise have left will now stay, for example? Sometimes you can measure a part of this, such as better productivity in an improved work area, but it’s tricky and generally you accept the benefit as important but non-quantifiable.



WARNING

Don’t ignore non-quantifiable benefits. Things like quality improvements can be hard or impossible to quantify, but they may be extremely important. If documents are going out to clients with spelling errors, that may lose future business because of the negative impact on the company image. If the project reviews all documents and produces a new set, all carefully checked, that will eliminate the bad impression. What’s that worth though? Can you prove that some customers didn’t re-order because of the poor impression created by the spelling errors, and exactly how many didn’t re-order solely for this reason?



WARNING

Now for a warning in the other direction. Be careful with non-quantifiable benefits and try hard to be realistic about them. Because you can never prove them, you need to be all the more careful that you’re not fooling yourself about the existence and significance of non-quantifiable benefits.

Occasionally there may be disadvantages of running the project, even when it is worthwhile overall. These are known as *dis-benefits*. So, the project to build and launch amazing new interactive web content means that our website has to be taken down for 11 hours and customers won’t be able to place orders online or download the e-catalogue during that time. Managing dis-benefits may require action such as putting a warning on the website in advance but coupling that with information on when the website will be up and running again . . . and how wonderful it will be.

Being prudent with benefit projections

A well-established accounting principle is that of being *prudent*. Being cautious and erring on the safe side is a well-known trait of most accountants and the source of a lot of accountant jokes. You’d do well to follow the accountants’ example when considering project benefits, though. Take note of two very strong

reasons to err on the safe side and, if anything, slightly understate the benefits rather than overstate them:

- » **Perceptions of success and failure:** If your project delivers slightly more benefit than projected, everyone will think it's a particular success. If the project delivers less than projected, then people may see even a great project as a failure.
- » **Incorrect strategy decisions:** If you overstate the benefits, the project may be run when it shouldn't be. That will have a double impact. The first is that the project won't be the good investment everyone thought it would be; second, it may well mean that the organisation didn't run, or delayed, another project that would have delivered worthwhile benefit.

Understanding benefits realisation

Benefits realisation is one of those terms that's caught on as management speak, and it's the one to use at important meetings to make it sound like you're at the very forefront of current management thinking. However, like many, but not quite all, management catchphrases, some value is tucked away inside the phrase. Put simply, benefits realisation is saying when you're going to see the benefits and how you're going to measure the benefits that you can quantify to demonstrate that they were forthcoming.

A common misunderstanding is that you see benefits only after the end of the project. Although it's true that you may see some of the benefits after the end, you may also see some before then. In fact, you can see benefits at three places in the process, and you need to put plans in place to measure and report benefits at those points:

- » **During the project:** In some projects, particularly but not solely business projects, deliverables are taken into operational use right through the project and there isn't just one big delivery at the end. If things are being taken into operational use during the project, it's likely that you'll start to see benefits during the project too. You can and should measure these benefits and report them straight away to give confidence that the project is on track to deliver the benefits that justified running it.
- » **At the end of the project:** You may see some benefits at the end of the project after the final delivery. For example, as soon you commission the new machine at the end of a project, an immediate drop in maintenance costs follows because the old machine needed daily attention.
- » **After the end of the project:** Where you introduce something new, it's often the case that it takes a while for everything to settle down so that you can

make an accurate measurement of the benefits. For example, with a new business procedure, staff work more slowly than usual when it's first introduced because they're still learning the procedure and it's unfamiliar. After a few weeks, performance picks up to what's now a normal level, so you can accurately measure and report the cost savings over the old procedure.

You can include your plans for measuring benefits in the Business Case itself or, particularly in larger projects where benefits realisation can be more complex, in a separate plan.

Avoiding benefits contamination

Benefits contamination is a term I coined when giving guidance on benefits realisation and, in particular, deciding how the benefits should be measured. The danger is that benefits are claimed for the project which are really due to something else. If you weren't quite the good Project Manager that you are, you might be tempted to think that extra benefits are quite good and will make your project seem better. However, being both intelligent and thoroughly professional, you'll be quick to realise that such contamination is dangerous. It means that measures of what the project has actually achieved are inaccurate; worse still, contamination may lead to the organisation running more similar projects on the assumption that they'll also show this imaginary benefit.



TIP

In setting up benefits measures, you need mechanisms that will isolate benefits and directly link them to the project. That's harder than it sounds and sometimes needs very careful thought. It does no harm at all to get some help when thinking this through, and indeed it's a mark of professionalism to call in some help if you need it to get the Business Case right. In the case of benefits measures and avoiding benefits contamination, some input from a finance manager can be particularly helpful.

Writing the Business Case

When you are actually producing the Business Case, the format may be set by an organisational standard, and there's a bit more on that in the next section. Within any standard the exact content then depends on who the Business Case is aimed at but wherever possible you should keep it short and factual. However, if others have got to look at it for information or perhaps to approve it, then you may need to add some explanation. If you do include more information, keep your target audience in mind:

» **Keep it simple.** However, don't talk down to your readers. You need to assess where they're at and then write at that level.

- » **Consider appendices.** You may have some detailed financial information, for example. If the fine detail isn't of interest to the bulk of your readers, consider putting an outline in the main part of the Business Case and having an appendix with the full data.
- » **Spell out the benefits.** You're familiar with the project idea and perhaps with the organisational area in which the project is running. But what may seem obvious to you may not be so obvious to people outside that area or to senior managers at the top of the organisation.

Complying with organisational standards

If you don't already know, check whether your organisation has a standard for project Business Cases. If so, comply with it. If you need more information in the project's Business Case than the organisational standard covers, you can always add an appendix that contains that extra information.



TIP

If you have to put information forward in a set format for financial approval, perhaps to a finance committee, try not to separate that work out from the project's Business Case and so end up doing the work twice. Instead, adjust the Business Case format to fit the approval submission, put any extra information needed for the project into appendices, and then don't include the appendices in the copy that goes to the finance committee.

Going Back to the Scope

Having set down the justification and benefits, it's time to revisit the scope to check it in two ways:

- » To challenge the scope
- » To see whether you need to add anything

In both cases, you work within any set constraints unless you think that you need to challenge such constraints and you're in a position to do that. You won't be able to challenge things like changes in the VAT rate, but you may well be in a position to challenge a constraint that you must use a particular brand of equipment. For example, perhaps new equipment has come onto the market from a different manufacturer that's cheaper to buy, technically more advanced and much easier to maintain.

Challenging the existing scope

For each area of the project, systematically check whether it's really worth doing or whether you could cut it out. For some things, the considerable project effort needed to include something simply isn't worthwhile given the very limited benefits that will result.



REMEMBER

Vilfredo Pareto, an Italian economist, came up with the 80:20 principle that 20 per cent of the population controlled 80 per cent of the wealth. Since then, people have applied the *Pareto Principle* to many areas, and commonly to effort. The rule is that 20 per cent of your effort brings about 80 per cent of the benefits, and the remaining 80 per cent of your effort gets that last 20 per cent of benefit. It's a bit like wringing water out of a soaked towel. A relatively small effort at the start gets a large amount of water out, but you end up putting in a huge effort and going red in the face to squeeze out those last few drips.

When challenging the scope, do bear in mind that some things are necessary even though they won't directly produce benefits (see the earlier section 'Understanding project justification' for examples).

Going the second mile

Keeping within the main thrust of the project, could you add anything useful to deliver extra benefit? It may be that you're already doing a substantial amount of work and by adding just a very small amount of additional functionality you could get considerably better benefits. This step isn't to encourage scope creep but rather to get the maximum possible value from the project.

Here's an example of getting maximum value. A UK stationery supply company put in a system to handle customer orders. That system, obviously enough, had to hold information on what the customers had ordered. The company wondered whether the system could serve any other purpose and then realised that the data gave it valuable information. As a result the system was extended to print personalised front pages to stick onto the front of mailed catalogues. So, if a customer buys a laminator for covering card and paper with plastic, but not the plastic pockets, they'll see on their next catalogue 'You bought a laminating machine but you haven't yet ordered laminating pouches from us. On page 5 you'll see that the A4 pouches are £4 a pack, but quote code XYZ for your special price of £3.50.' The added functionality for the system led to significant extra sales based on a small amount of processing of data that the company had to hold in any case.

Getting to Grips with Techniques

A few techniques can help with Business Cases. The remainder of this chapter explains two, including a particularly important one: cost–benefit analysis.

Calculating return on investment

The *return on investment* (ROI) is a simple division of the quantifiable benefits by the project cost in a stated period. Perhaps the project will cost £1 million but will lead to £5 million of benefits.

$$5,000,000 / 1,000,000 = \text{ROI of } 5$$

This ROI figure is useful but it's not everything. Remember that the project may have important non-quantifiable benefits (see the earlier section 'Understanding benefits'), and the benefits projections may not be 100 per cent accurate in any case. To make the ROI figure meaningful, you should also state the time needed before the return; this has been called *the dollar day* – for how many days is each dollar invested? Investing £1 million and getting a return of £5 million within one year is very different from having to wait ten years for the same return.

Understanding cost–benefit analysis

Cost–benefit analysis is the most widely used technique for project Business Cases. The technique may sound complicated, but really it's very simple. You set down the costs of the project and compare them with the savings or benefits. However, because all the project costs are incurred during the project, and because the savings or benefits will continue year on year, it makes sense to look at a period of five years or so to get the overall picture and to see when the project will pay back or break even.

From Figure 3–2 you can see that the project is run in Year 0 and will pay back during Year 2. It will have offset the costs of the project and in fact will show a slight gain of £10,000 by the end of that year. Great: by the end of Year 2 we're already making money.

Allowing for inflation

The *simple payback* (sometimes called direct payback) or *break even model* is useful but it leaves out an important factor: future money isn't as valuable as today's money. If (and please note carefully the *if*) I offered you £5,000 and asked whether you'd like it today or whether you'd prefer the £5,000 in five years' time, what

would you reply? Well, ‘Today!’, without doubt. You’d have two reasons for your choice. The first is you’re afraid that I may change my mind, and you’d prefer to get your hands on the cash while I’m still feeling generous. The second is that in five years’ time the money won’t be as valuable: it won’t have the same spending power.

£ '000s	Year 0	Year 1	Year 2	Year 3
Costs				
Equipment	105			
Project teams	135			
Maintenance	0	5	5	5
Total costs	240	5	5	5
Benefits				
Saved maintenance		15	15	20
Higher productivity		35	35	35
Increased order value		80	80	80
Total benefits	0	130	130	135
Balance	-240	125	125	130
Cash flow	-240	-115	10	140

FIGURE 3-2:
The simple
payback model.

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The further you go into the future, the less valuable money becomes. If you’ve read historical novels or watched films such as *Pride and Prejudice*, you’ll know that people in England were once impressed because someone had an income of £10,000 a year. So if your project is forecast to get a benefit of £10,000 in Year 5, it won’t actually be worth that much by the time you get to Year 5. What you need to do in order to have a more realistic view is to discount the value of future money; the further you go into the future, the more you need to discount it.

Using discount factors – net present value

Depending on the current state of the economy and things like the rate of inflation, the discount factor varies. Ask your finance people what the current factor is or check online. Figure 3–2 uses a discount rate of 5 per cent so at Year 0, £1 is worth £1. By Year 3, though, £1 is only worth 86.4 pence. You express future money in today’s values.

You can set up your discounted cash flow on a spreadsheet, and if you do you’ll find a function that deals with discounts, @NPV, which stands for *net present value*.

Using the same example as before, Figure 3-3 now shows that the project doesn't actually break even in Year 2 at all; by the end of that year, it's still £3,000 down. In fact, break-even occurs in Year 3, and you see that the overall benefits are lower.

Although it gives a more accurate view, discounted cash flow is still limited so don't get too carried away:

- » It assumes that the economy will remain stable for the period covered by the cash flow, and so uses a uniform discount value over the period.
- » It assumes that the projected benefits will be forthcoming. You can make adjustments to allow for known future events such as increased maintenance costs for existing equipment, but seeing into the future of a business isn't easy. If you can see into the future of the business world accurately and consistently, you're not only going to be very good at cost – benefit analysis, but you are also wasted in project management.
- » It doesn't account for non-quantifiable benefits, of which some or all may be extremely important.

£ '000s	Year 0	Year 1	Year 2	Year 3
Costs				
Equipment	105			
Project teams	135			
Maintenance	0	5	5	5
Total costs	240	5	5	5
Benefits				
Saved maintenance		15	15	20
Higher productivity		35	35	35
Increased order value		80	80	80
Total benefits	0	130	130	135
Balance	-240	125	125	130
Cash flow	-240	-115	10	140
<i>5% discount rate</i>				
Discount factor	1.000	0.952	0.907	0.864
Discounted balance	-240	119	113	112
Discounted cash flow	-240	-121	-8	104

FIGURE 3-3:
Discounted
cash flow.

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- » Understanding that it's people who can often make or break your project
- » Identifying your project's stakeholders
- » Analysing who can affect the project and how
- » Deciding how to manage stakeholders

Chapter 4

Knowing Your Project's Stakeholders

Often a project is like an iceberg: nine-tenths of it lurks below the surface. You receive an assignment and you think you know what it entails and who needs to be involved. Then, as the project unfolds, new people emerge who may have a significant impact on your project.



KEY TO
SUCCESS

You can have a great project idea and be implementing the latest whiz-bang technology, but if you don't get the people side right you run the real risk of failure. That 'people side' includes your project's stakeholders; those who have an interest in the project and who might support it or, if you neglect this area, might not (perhaps to the point of opposing it).

Unless your project is one of a small minority that only affects you and your immediate staff, you should carefully consider the various stakeholders. This chapter helps you establish who the stakeholders are, what their view of the project is, whether to involve them and, if you do need to involve them, how. It also has hints and tips on handling any stakeholders who are opposed to your project and who may not be afraid of saying so.

Managing Stakeholders

The area of project work you're involved in with stakeholders is called, not surprisingly, *stakeholder management*. Although that term has become a buzzword, don't dismiss it, because this part of project management can ultimately hold the key to success or failure in your project.



REMEMBER

A *stakeholder* can be any person or group that is affected by or is interested in your project. Project stakeholders may be located inside your organisation or outside, or both. In addition to making sure that your project has maximum support, knowing who the stakeholders are helps you to:

- » Consider whether, when and how to involve them
- » Understand your project communication needs
- » Determine whether the reach and impact of the project is bigger or smaller than you originally anticipated



WARNING

You risk compromising your project in two ways when you don't involve key people or groups in your project, or involve them at the right time:

- » You may miss important information that can affect the project's performance and ultimate success.
- » Usually more painful, you may upset someone. And you can be sure that when people feel slighted or insulted – or just plain overlooked – they're more likely to oppose your project than become wildly enthusiastic supporters.

In UK business (which includes the public and not-for-profit sectors), opposition isn't always a direct frontal assault, with someone saying that your project is a heap of garbage and the worst idea ever to contaminate the planet. Often, opposition comes in the form of an apparently restrained but negative comment, or just the lift of an eyebrow, or simply a stony silence when a very senior manager mentions the project. It's worse when the opposer knows a senior manager well and can play on the manager's fears. In the *Yes, Minister* TV series, the civil servant Sir Humphrey Appleby can always stop the minister, Jim Hacker, in his tracks on any course of action by smiling and uttering the words, 'That's a very brave decision, minister.' The very last thing the minister wants is to be brave and risk his position, and those awful words guarantee frantic back-peddalling.

In order to be successful you need to manage the 'soft' people side of the project as well as the 'hard' skills side that includes things like planning.

In his poem ‘The Elephant’s Child’, Rudyard Kipling wrote some well-known and often quoted lines:

*I keep six honest serving-men (They taught me all I knew); Their names are
What and Why and When And How and Where and Who.*

The six serving-men questions are useful throughout a project, and in this chapter they provide a great framework for stakeholder management.

Identifying stakeholders – the ‘who’

Identifying stakeholders can simply mean that you sit down and think through the project and its environs, but it’s often useful to talk to other people in the project who may think of important people or groups that don’t immediately spring to your mind.

Developing a Stakeholder List

As you identify the different stakeholders in your project, you may find it helpful to record them in the form of a *Stakeholder List*. It’s important that you don’t lose sight of any of the stakeholders, and unless you only have a few stakeholders in your project, a list is a simple and obvious way of keeping track. As you develop your Communications Plan (covered in detail in Chapter 16), for example, you can quickly scan the Stakeholder List to make sure you haven’t left anyone out.



TECHNICAL
STUFF

In some project environments you may hear people refer to the Stakeholder List as the Stakeholder Log or Stakeholder Register.

Using specific categories

To help ensure that you include all appropriate people, you may find it sensible to structure and develop your list with categories. You’re less likely to overlook people when you consider stakeholders department by department or group by group instead of trying to identify everyone from inside and outside the organisation at random.

You can work out your own list of categories, but here’s one example:

» **Internal:** People and groups inside your organisation:

- **End users:** People who’ll use the things that the project will produce. For an example of their importance see the nearby sidebar ‘Talking to the real end users’.

- **Maintenance and support:** People who will maintain your project's products during their operational life. Such support staff work in areas including facilities, finance, human resources, information services, legal services, procurement or contracting, and security.
- **Originator:** The person or group (perhaps the management board, for example) who came up with the idea for your project.
- **Senior management:** Executive-level management responsible for the general oversight of all organisational operations.
- **Specialist interests:** Groups typically involved in most projects in the organisation, such as the human resources, finance, contracts and legal departments.
- **Team members:** People assigned to the project, whose work the Project Manager directs.

» **External:** People and groups outside your organisation:

- **Business partners:** Groups or organisations with which you may pursue joint ventures including, perhaps, this project.
- **Clients or customers:** People or groups that buy or use your organisation's products or services.
- **Regulators:** Such as local government planning staff, central government security staff or industry safety specialists who might be involved in checking some aspects of your project work.
- **Staff associations and unions:** Partly because they can often make valuable contributions to the project, but also because they may get direct enquiries from staff about it and need information to respond.
- **The public:** The local, national and international community of people who may be affected by or interested in your project.
- **Vendors, suppliers and contractors:** Organisations that provide staff, raw materials, equipment or other resources required to perform your project's work.



REMEMBER

Specialists, such as legal specialists, prefer to be involved early on so that they can check that things are right and give you a steer if needed. Involving specialists early on is much better than not consulting them but then calling for them later in a flat panic because you've encountered serious legal problems and need the specialists to put in a huge effort to dig you out of the mess. If you think that your project may have a legal dimension, put your organisation's legal advisers on your Stakeholder List.

TALKING TO THE REAL END USERS

In the UK, the headquarters staff of a prestigious hotel chain decided to run a project to upgrade the furniture in the conference rooms in the chain's hotels throughout the country. They consulted designers and style specialists and chose smart new tables, chairs and other conference room fittings. They checked data for each hotel to find the number and capacity of its conference rooms and then ordered the appropriate number of items for each one. Towards the end of the project, hotel managers were informed that they were to have new furniture and that the existing furniture would be taken away when the new furniture was delivered.

Unfortunately, the new-style tables and chairs were larger than the older, but perfectly acceptable, existing furniture. In the smaller conference rooms with little or no spare space, the new furniture would reduce the seating capacity, but the team hadn't appreciated that because they failed to talk to hotel managers, who were important stakeholders and, in fact, end users.

In one hotel, the manager was particularly upset because nearly all of his conference rooms were small. The manager was being held accountable for the profitability of the hotel – including the conference business – but was unaware of the project until shortly before the new furniture arrived. It not only reduced the capacity of the hotel's conference rooms for future bookings, but also caused a major headache because bookings had already been accepted months ahead for these rooms with fixed numbers of people attending.

Spotlighting senior management

All of the interest groups in the preceding bullet list are important, but a particularly important one is senior management. Surveys of project failure show that a very common cause of problems is lack of senior management buy-in. If your project is anything other than small or is going outside the boundaries of your own work area, you must do your very best to secure this buy-in. Otherwise, senior managers could undermine your efforts on the project, such as by seeing the project as unimportant and transferring staff or funds to other areas part way through. Such undermining often happens because the senior managers were never seriously committed to the project in the first place.

Chapter 12 covers the important area of project organisation, including roles and responsibilities. One of the roles explained there is the powerful position of the project Sponsor who represents the business view and, as such, has ultimate responsibility for the project. That representation is no coincidence since the project is there to serve the business but it has the added value of helping to lock in senior management commitment to the project.

Keeping the Stakeholder List up to date

As the project develops, you may well discover more people who have a genuine interest in it. Keep the Stakeholder List up to date and then review it periodically to see how you need to keep those additional people informed or how you need to involve them. You may be able to cover any new information needs with a slight adjustment to your Communications Plan, such as by inviting the additional people to a monthly lunchtime project briefing; if the additional people need to be involved, however, it could lead to changes to the Project and Stage Plans.



TIP

If you need to develop a Stakeholder List for most of your projects, consider setting up a template. The template is simply a pre-prepared list that contains typical categories and stakeholders. You may even have specialised variants for particular types of project. You can develop and maintain your own templates, or your organisation's Project Office may develop and maintain them for the entire organisation. As the organisation continues to perform projects of this type, it can add stakeholders that were overlooked in earlier projects and remove those that proved unnecessary. Using a template can save you time and improve your accuracy, but don't forget to check it to ensure that it is relevant to your current project. Add any new stakeholders you know of and delete any who won't have an interest in the current project.

Analysing the stakeholders – the 'where'

Stakeholders are those who have an interest in the project because it will affect them in some way, and who may have an influence on it. *Stakeholder analysis* involves considering each stakeholder to ask where they are positioned, and that is in two dimensions. First, is the degree of influence and then second, if the person has a positive or negative view of the project. You may set out to actively change the position or outlook of certain stakeholders, but to do that you clearly need to establish first where they are now. Having two dimensions may lead you to wonder whether you could even plot the position of each stakeholder on a matrix. If you do wonder that, you'll really like the next section.

The Stakeholder Matrix is an extremely simple idea, but a powerful one because it helps you see where stakeholders are in terms of their support of the project and the degree of influence over it. It helps you consider where you need to try to change that position. You simply plot each stakeholder's position on the matrix using a stakeholder ID or their name.

Figure 4-1 marks in four people as examples, suggesting four different approaches to stakeholder management.

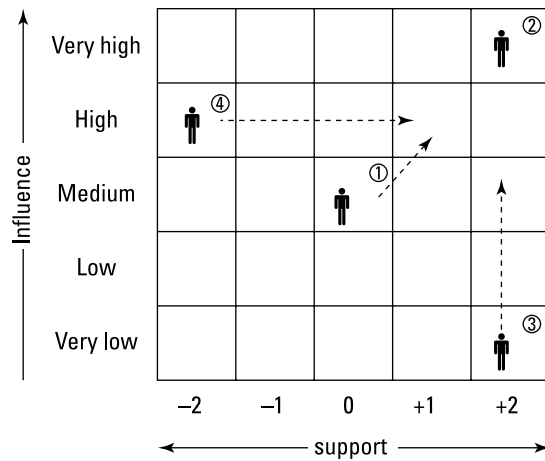


FIGURE 4-1:
The Stakeholder
Matrix.

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1. This person is neither for nor against the project and has medium influence over it. Your priority is to make this person much more positive about the project and then, if you succeed, you might move on to try to make the person more influential.
2. This person is a project champion, very much in favour of the project, and is also in a position of significant influence. Be careful how you think about people in this area of the matrix. An initial reaction may be that you don't need to do anything, but actually you must work to make sure that they stay on-side and enthusiastic.
3. The third person is really for your project but doesn't have much influence. The question for this person is whether you do something to increase their influence and so make the support more effective.
4. Here is the opposition, and quite serious opposition too. Not only is the person firmly against your project but they also have a high degree of influence. You need to work to convince this stakeholder that the project is worthwhile and so gain support. If you're a more political player, you might also be looking to see whether you can reduce this person's influence.

Although the matrix is extremely useful in getting a picture of where individual stakeholders are, it's also useful for seeing the overall distribution. For example, you may see that the majority of the stakeholders are in favour of your project but that relatively few of them are in a position of influence.

If you want to, you can also make the matrix more sophisticated by showing the position of stakeholders before any management action, and your assessment of their position after stakeholder management action is in place.

Understanding positions – the ‘why’

Before you can try to maintain or change a stakeholder’s position, you need to understand why a person or group has taken a particular stance.

Understanding a negative stance

When someone has objections to the project, it’s important to hear those objections. And *hearing* means listening very carefully, working hard to understand, and trying to see things from the stakeholder’s position. In some cases, those making the objections reduce their opposition when they feel that they’ve at least been heard rather than just plain ignored. In other cases, the concerns may be entirely valid and you need to do something about them. When people see that you’ve taken their objections seriously and addressed them, they may come on-side and support the project, or at least move to a neutral stance from a negative one.

Another reason for a negative stance is lack of understanding about the project, or even misunderstanding. People tend to react against something, or show inertia and a lack of positive support, when they don’t fully understand it. Sometimes they’re scared to commit, because they aren’t sure exactly what they’re committing to. Where you spot this, the action you need is communication to explain things clearly and in terms that the people involved can understand, but always taking care not to sound patronising.

If you do have significant opposition to the project, you can find a bit more help in the section ‘Handling Opposition’ towards the end of the chapter. Also check out the sidebar ‘Look for the underlying causes’.

Understanding a positive stance

If a stakeholder has a positive stance then, perhaps strangely, you also need to understand why. You can’t protect a position until you know the underlying reasons for it. The stakeholder may be a massive fan of your project because it will deal with a problem that’s plagued their staff for years. If the project comes under pressure of time and budget, and the plan shows that you need to reduce the scope, you’d do well to think twice before cutting the part that deals with that stakeholder’s problem.

Even if you do have to make a reduction that will remove an important benefit for a key stakeholder, you should be very aware of the impact when thinking through the changes. Then you can at least go and explain beforehand why you need to make the reduction, and so work to soften the blow. That way the stakeholder’s reaction may be one of understanding and disappointment rather than cold fury and opposition.

Understanding the power base

In your analysis of stakeholder positions, check out their power base in relation to the project. You can think of this in categories:

- » **Affected:** A person may be affected by the project, but doesn't have the authority to give input or affect the results. However, you want the person to be positive and accepting of the project. An example is with operational staff who'll use the new business procedure, or another organisation or department that needs to fit in with new procedures in this one.
- » **Approvers:** Those who aren't always directly involved in the project but whose approval is needed, often to confirm compliance with regulations. This includes legal and financial specialists.
- » **Decision-makers:** Those who can affect what the project does and what it will deliver, and who may even hold the purse strings and so can affect financial and staff resource.
- » **Interest:** Such as customers wanting to know about new developments, but they don't have any influence over the project.
- » **Those with a veto:** Some organisations contain people who can't make things happen but they have the power to stop things happening. Keep your eyes and ears wide open when working on this category, because sometimes the veto isn't through direct authority but disproportionate influence, and sometimes by surprisingly junior staff – 'Well, if Mary down in customer services doesn't think it's a good idea . . .'



WARNING

Be careful how you document information about stakeholders. Your director of finance may have a mean, narrow-minded, 'bean counter' view of project benefits, and could cut project funding on a whim or in a fit of temper. However, although that's a problem to the project, it may be counterproductive to document the stakeholder using those exact words: it's probably not the best way of getting the finance director on-side!

Deciding action – the 'what'

Your stakeholder management now moves clearly from the analysis part into the action part as you consider *what* you need to do. On the one hand, you may want to consolidate a stakeholder's current position to make sure, for example, that the person stays enthusiastic and on-side. On the other hand, you may want to try and change the stakeholder's position, particularly if it's currently against the project. Now this is getting onto slightly dangerous ground because, as a Project Manager, you don't want to be seen as a political game player. However, you'll be pleased to know that you can be successful in changing the outlook of problematic stakeholders without becoming a cut-throat and devious greasy-pole climber. There's more on this later in the chapter.

LOOK FOR THE UNDERLYING CAUSES

When starting an IT project in a UK government agency, I was informed that the senior user representative on the project was to be a certain manager. I was told by the Project Manager of a project just finishing that this manager had been a real problem throughout that project and had constantly blocked progress. It wasn't so much opposition in his case, but rather inertia. When an important specification was to be signed after it was circulated, the manager would attend the review meeting and sit quietly. At the point he was asked to sign off the specification he refused, saying that he couldn't sign it because he hadn't read it yet. When asked when he would be able to read the specification, he replied that he was very busy and didn't have time to read it.

Thinking about the problem, I decided that time pressure wasn't the issue because the manager was involved with less important things and dealt with them without any apparent difficulty. So my conclusion was that the manager was scared. He didn't understand what he was being asked to put his name to, but knew that he'd be held accountable if the documentation was later found to be wrong and he'd signed it off.

Before any significant document was circulated on the new project, I took to calling in to this manager's office for a chat. The manager was always happy to talk for a while – so not that busy then. The first time I did this, I noticed a pile of aircraft magazines on a shelf and so talked to him about an air show I'd recently been to . . . and I waited. The manager wasn't rude, so it was just a matter of time until he asked, even out of mere politeness, how the project was going. My reply was that it was going really well and the work to map the current business functions was nearly complete and in fact, I 'happened' to have a copy of the main diagram with me. I put the diagram on the desk and talked the manager through it in a low-key way. The manager was very interested and asked a few questions. When I held a review meeting a few days later to sign off the description of the current functions, the manager signed with no hesitation whatever.

Looking at the possibilities

Your responsibility as a Project Manager is to deliver the project. What you can't afford is to manage your stakeholders superbly but fail in that project delivery. So you have to balance out stakeholder management. Exactly what effort is needed and how much work can be justified? In turn, part of that is looking at your chances of success. It's simply not worth a lot of effort trying to change someone's view of the project if they're dead set against it, and any attempt to change their view will simply be a non-starter or, worse, add fuel to the fire – 'Now they're trying to manipulate me as well!'

Involving others

Don't think that working with stakeholders is all down to you as a Project Manager. If you have more senior managers involved in the project, perhaps on a PSG or as the Sponsor (more on these in Chapter 12), talk to them about stakeholder issues. They may be better placed than you to take the agreed actions and so be much more effective.

Working with stakeholders – the 'how'

Having decided that you need to involve some of the stakeholders, or at least communicate information to them, you need to decide *how* best to do that. This is where your analysis of both the stakeholders' positions and the stakeholders themselves pays dividends. Think about:

- » **Approval:** Before completing the project, or even some key deliverables within it, you may need to get approval from stakeholders who have authority to make decisions. An example is the approval of a design before the building works start to modify the offices.
- » **Communication:** How you'll communicate information such as on the impact the project will have, its progress and benefits projections – particularly on benefits to the stakeholders.
- » **Consultation:** Do you need to get agreement from stakeholders at particular points in the project? How will you do that or, if you're constrained by procedures, how must you do that?
- » **Participation:** When making organisational change, you get people on-side more easily if you involve them in the change process, so how will you do that? For example, you may get operational staff involved to help design new procedures. That helps ensure that the procedures work but also that the operational staff 'own' them from the outset.

Involving stakeholders in the project will, in turn, affect the plans. Taking the example in the bullet list above of getting operational staff to help design new procedures, you can do that by asking them to submit suggestions and then check over the final design, or you can add some operational staff to the team that's working on the design.

The Stakeholder List comes into its own here, and you can use it to help ensure that you've considered the needs of all stakeholders on the project.

A lot of the stakeholder management actions relate to communications. It follows that as you think about the stakeholders, you adjust the Communications Plan. When passing on information, don't just add names to e-mail lists. ('Well, we told you about XYZ; you were on the distribution list.') In medium to large projects particularly, consider:

- » **Briefings:** Such as a lunchtime 20-minute illustrated talk once a month
- » **News sheet:** An illustrated project bulletin circulated to everyone with an interest in the project – and it can be electronic, not printed
- » **Roadshow:** Going around to the regional offices before the product launch
- » **Website:** A dedicated website for the project, with news and progress information, excluding anything sensitive

Use these strategies with care because they take effort, but one or more may be a really good way of communicating information to important stakeholders and prove very cost-effective.

Planning the work – the 'when'

Some work to manage stakeholders is effectively continuous, such as keeping everyone up to speed with progress and new developments on the project. Other work focuses on particular points. Here are some examples that are at fixed points, but you need to think through your own project, come up with your own requirements, and then build the actions into the plan at the appropriate points:

- » **Customers:** When the project is confirmed, to tell them changes are coming, and then towards the end of the project to explain, for example, how the new ordering procedures will work and when they'll become operational
- » **Donors:** With communications at the front end to catch the imagination and drive up donations for the work, but then at regular intervals to maintain interest, show the impact of money given so far, and explain the current financial needs to encourage further gifts
- » **Interfacing departments and organisations:** When you know the design, so that others can work out the impact of it in their area, and then in testing to be sure that the interfaces function properly
- » **User staff:** Towards the front of the project to provide input into the design, perhaps during the project when particular products are being developed, then a few users towards the end of the project to help with testing

Handling Opposition

If one or more people are dead set against your project, then you won't need this book to tell you that you've got problems. However, although serious, such problems aren't insurmountable; this section gives a bit more help.



REMEMBER

People rarely take action or hold a position without a reason, no matter how valid or invalid you think that reason is. Try hard to find out why a person is opposing your project. And you may indeed have to work hard because someone can give one or more reasons for being against an idea or action, when the real reason is buried deeper down. In this case you may get frustrated as you counter a point because the opposer then comes up with another one, and then another. This is because you are not tackling the underlying issue.

Solving the problems

If the opposition is because your project will cause genuine problems, do your best to make adjustments so that the project won't cause problems. Remember that sometimes objections are valid. Taking this approach can result in a win-win; not only do you avoid the problems, but the people who raised the objections are now really impressed that you've listened and then worked with them to solve the difficulties.

Focusing on the common areas

Try to identify common areas and major on what you have in common, not on points that divide, especially if those points are minor. Sometimes people lose all sense of proportion when making negative arguments. Minor issues that are molehills assume the proportions of mountains and then obscure nearly everything else.

Understanding that you're a threat

When looking for underlying reasons for a negative stance, consider the idea that people are probably seeing you, your project, or both, as a threat. Projects, by definition, are usually changing something, and generally people don't like change. You may not notice people's dislike of change at first because:

- » You probably like change or else you wouldn't be involved with projects. It's natural enough to think that other people see the project the way you do, so you may be puzzled as to why they don't share your enthusiasm.

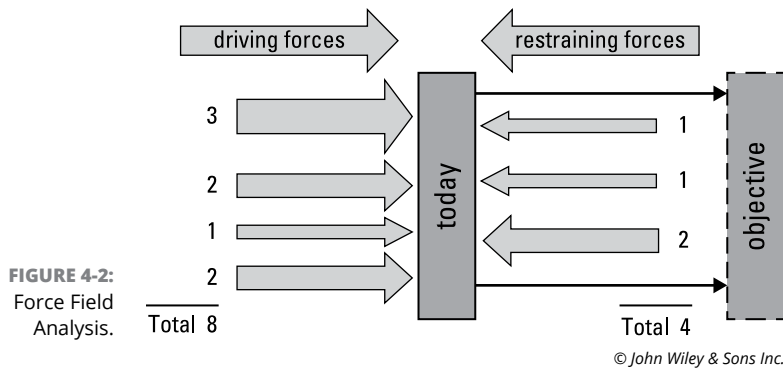
- » 'Operation cover-up' is underway. If a managing director promotes a project at the company meeting by saying it will 'change the face of our whole operation', everyone may clap and smile and say 'wonderful idea' to each other, while saying secretly to themselves 'over my dead body!' It doesn't do to be seen to be opposed to something backed by senior managers, but what about what's unseen?

You need, then, to reduce the threat by observing these points:

- » **Be scrupulously honest.** One thing guaranteed to heighten threat and fear is distortion. People need to know that when you say something, it's true. That way they learn to trust you instead of the rumour mill.
- » **Be open.** Make as much known about the project as possible. If people think you're hiding things, they imagine all sorts of nasty threatening reasons why. That's completely unnecessary if the information wasn't secret in the first place.
- » **Act open.** It's surprising how little things can increase or decrease the feeling of threat. If you're talking to someone and want to take notes, ask their permission, even if they're very junior. The person is highly unlikely to say no, but the act of asking gives them the feeling of being in control, which runs counter to feeling threatened. Also, hold your notes in a way that the person can see what you're writing, and ask if you can send them a copy afterwards to check that you've got the details right. Again, all of this signals openness, which does a lot to play down threat.
- » **Involve people as much as you can.** Okay, maybe you could do it faster and a bit cheaper with less involvement, but that small saving comes at a high cost if you end up with huge opposition that could kill your project. Involvement is a key component in change management, and your project is probably about change. Nobody likes things being imposed on them, and a hugely different dynamic exists where people are involved.
- » **Understand the extent and strength of opposition.** You can use techniques such as Force Field Analysis to model the forces at play so that you can understand them and also the overall dynamic of the project better.

In *Force Field Analysis* you are looking to move from A to B, shown with the vertical bars in the example at Figure 4-2. Different factors are helping the forward movement while other factors work against it. As you list each factor, you put a scale of 1 to 5 on it and draw an arrow of relative thickness. The number you allocate is subjective, so this modelling technique is great to help you think through the dynamics of a situation but isn't some scientifically precise formula. The total of the positive and negative forces give you an idea of whether there is more in favour of the progress than against it, or vice versa. If the balance is against the

idea, the difference between the two totals also indicates how much of an uphill struggle you have. The arrows help you focus on the main things that you need to tackle to reduce the opposition or increase the force for progress. You are putting what you already know into your analysis diagram, but it helps you to ‘see’ it all and think things through.



Spotting facts and emotions

Emotion can be a factor in opposition and it can be frustrating when you’ve countered a fear or an argument using rock-solid fact and unassailable logic, and *still* the stakeholder you’re talking to doesn’t come around. Emotion lies behind a lot of actions and decisions.

People make some decisions emotionally, and equally hold some views emotionally. Sir Richard Branson runs Virgin Atlantic Airways, but why? Did he think it was the best option for a business? That’s debatable, because when asked how you become a millionaire, he’s reported to have said, ‘Start off as a billionaire and launch a new airline!’ No, although he no doubt checked out the business position, it’s said that he started Virgin Atlantic because he’d always wanted to run an airline; at its root it was an emotional decision.

So why, when it’s so obvious that the move to new offices would help operations and be so much cheaper, is one of the founding partners so opposed to the project? Well, the old building that you’re closing down and selling off is where the whole business started off 30 years ago with the founding partner and a team of five friends and five new employees who quickly became friends too. The place is part of their history and holds many memories of both good times and struggles through tough times, and it’s so very hard to let go.

So what could you do about an emotional attachment to the old building? You need to think creatively and even if the solution adds to the project costs a bit, that's likely to be less than the cost of delay caused by reluctance or opposition. In the case of the founding partner, just going to talk to them for an hour so they can reminisce may be a start. Then, how about changing the plan for the décor of the reception area in the new building? Instead of that modern art of dubious taste, have some great graphics panels with photos of the earlier life of the company. They could include pictures of the original staff and building and progress to more recent times, and all be nicely lit with downlighters. Such a display, with some of the photographs having been provided by the founding partner himself, may help satisfy their understandable need to stay in touch with the company roots. And it will probably be rather impressive to customers visiting the building to see how the company has grown and developed. Perhaps it will be cheaper than that modern art too!

Overriding the opposition

Well, that's it for the kind stuff; now on to the tough stuff. If you have ongoing serious opposition but the project must get done, you need to stamp on that opposition. Such stamping presupposes that you've done everything possible to win over the opposing stakeholders.

As a Project Manager, you probably won't have the personal authority to do much stamping! Even if you're a fairly high grade, the chances are that your project is cross-functional and the opposition is coming from another department where you don't have any authority. The answer in this case is to go higher. To take a simple case, you work with your project Sponsor to get the managing director to issue a notice from the management board to say that this project is going ahead and that the board requires staff in all departments to cooperate to ensure that the project is successful. Now if anyone opposes you or the project, they put themselves in opposition to the management board.

Having gone over the heads of the opposing stakeholders, you win out. But be vigilant because although opposers may now appear to cooperate, their involvement is unwilling and so is likely to be half-hearted at best. At worst, they may secretly work to undermine the project so that if they succeed they'll be able to say, 'I told you it was a bad idea and would never work.'



WARNING

It is better to convince than compel, so don't stamp unless you really, really need to and all else has failed. After you've got heavy, you'll almost certainly have eliminated any further possibility of winning people over. Also, the bad feeling it creates will last long after the end of the project.

Handling Multiple-Stakeholder Projects

This section refers to stakeholders who have power to authorise things in the project and who may also have a power of veto. If you're working in the public sector, you may face this where you have multiple government agencies involved or multiple organisations.

Two examples are:

- » A project to reduce street crime that could affect several government departments, police, courts and probation interests
- » A group of local authorities working together to share the development of a new system for keeping track of large maintenance works in schools

Getting multiple approvals

In a multiple-agency project, instead of just getting approval for something in the project from your own organisation, you may need to get the approval of all the stakeholders. Getting that approval can prove difficult when the different agencies have different agendas, different priorities and different perspectives. What's important to one stakeholder may not be important to the others. But worse, what if the requirements conflict? If you don't manage a conflict well, stakeholders with opposing views can bring the project to a standstill, each refusing to give approval unless you meet their requirements.

Where multiple organisations are equal financial stakeholders in a project, such as with local authorities or hospital trusts working together, life can get more difficult still. In effect, each organisation has the power of veto because if it pulls out, the others are faced with a higher financial overhead. Worse still, the remaining stakeholders may have to cancel the project if they can't find the extra, thereby losing the project and all their investment to date.

Developing management strategies

The area of approvals can be an extremely difficult area to manage, but following are a few strategies that can help, at least as a starting point:

- » **Checking out compatibility of interest:** Make sufficient effort in the project, or ahead of the project, to establish that the organisations are genuinely compatible in the project they're looking to run. It's all too easy to rush into

joint agreements using the same sort of words and assuming that everyone means the same thing. You must do sufficient work to give confidence that the needs, outlooks and even cultures of the participant organisations are compatible.

In planning, you might include a product that's a signed joint agreement. That product then makes a good bottleneck in the Work Flow Diagram – Chapter 5 has the detail.

- » **Deciding up front how to handle conflicts:** Decide how you'll resolve conflicts of interest long before the first one happens. People can think dispassionately and more logically while nothing is at stake. If a conflict is already underway, then they're distracted by trying to come up with a mechanism that will work in their favour for the current problem.
- » **Agreeing the casting vote:** Negotiate up front who has the casting vote. In the event of disagreement, everyone works at trying to find a solution that satisfies all the participants. If no such solution can be found then the designated person makes the call, and the other partners have all agreed up front that they'll accept that decision.
- » **Deciding priorities:** You can reduce arguments if you grade requirements at the outset so that it's clear for each agency what's essential, what's preferred and what's nice to have. Although this won't prevent clashes on major items, it serves to lessen conflict on minor ones because they've already been labelled as minor.



Planning Time: Determining What, When and How Much

IN THIS PART . . .

Understand the very powerful product-led approach to planning, which also opens the door to particularly effective quality management and progress control.

Learn how to do activity planning, and find out how to check that the staff resources fit.

Plan the use of your project staff effectively, getting the right people and making sure that their availability matches the time you need them for.

Think through any materials and facilities you need, then develop a project budget showing the money you need, when you need it and how much the project will cost.

Find out how and when to plan at different levels. For a stage or phase in the project, you usually want more detail than in the plan for the overall project.

Steer clear of avoidable problems in your project. Find out how to identify, analyse and deal with the risks associated with your project using tried and trusted risk-management techniques.

Discover why quality is seriously important in all projects and why you must focus on delivering at the right level – not too low or too high.

- » Planning with a difference – and avoiding activity-planning problems
- » Seeing the logic of a product-based approach
- » Considering product-planning techniques
- » Releasing huge progress and quality management power as bonuses

Chapter 5

Planning with Deliverables First

If you've been around projects for a while and come across other books or use project management software (actually it's often only scheduling software), you will have seen the planning approach in which you first list all the activities or tasks for a project and then draw up a Gantt Chart with its familiar horizontal bars (see Chapter 6 for more on this chart). To help you get to your task list, you may also have used a hierarchical diagram in which you can break down the major activities into more detail to determine a working list of tasks.

This chapter, however, starts the planning before you get to the activities: it starts with thinking about, understanding and defining what you need to deliver. Then, when you're as clear as you can be on what you're going to deliver, you can start thinking through what activities you need to build those deliverables.

This chapter makes the case for the *product-led* or *product-based* approach to planning and also gives you some really powerful techniques. The product-led approach is extremely logical, and it's hard to overstate just how very good it is. Not only is it an enormous help in planning, but it also opens the door to particularly effective quality management and progress control.



WARNING

The product-led approach to planning isn't intuitive, so you may need some time to get your head around it. If you're reading this book because you're completely new to project management, then you'll be delighted to know that you'll probably find the technique fairly straightforward and easy to use. If you're a more experienced Project Manager, you may take to the product-led approach easily too, but don't be worried if you have a bit of a struggle – and don't give up – because the benefits of product-led planning hugely repay your efforts in getting to grips with the approach. Keep at it and suddenly you find everything clicks into place; after that, planning with products will seem easy and it will simply become the way you think and work.

Seeing the Logic of Product Planning

You can't really argue with the logic of the product-led approach. How can you possibly determine activities and time durations with any accuracy if you're unclear about what it is you're going to build?



TECHNICAL
STUFF

Many approaches to project management refer to deliverables as *products*. What you produce are the products. For more on products, see the later section 'Knowing What a Product Is – and Isn't'.

Thinking 'product' before thinking 'task'

To show the logic of looking at products first, the following example of taking the alternative, activity-led, approach shows where you usually hit problems.

We're working on a project and our computer software tells us to list the activities first. We write on our list 'Build the wall', because that's going to be an important element in this project, which involves some alterations to our headquarters building. After we've entered this and the other tasks, the next step is to draw bars on a Gantt Chart to indicate the time duration. Please say then, how long it takes to build a wall. You probably want to start asking questions about the wall, such as how high it will be and how long, and the sort of finish required. But you missed the question and aren't helping. The software says that step two is to enter the time duration, not start a debate, so please give your estimate. How long does it take to build a wall?

The example shows a significant problem that crops up when you start the planning with the activities. Activities are a comfortable place to start, but not a logical place. The comfort comes because people normally think *activity* when faced with

a project. ‘Oh, I need to do this, and I must remember to do that, and I mustn’t forget to ask Fred to do the other.’ It’s do, do, do. But how can you accurately determine the activities needed to build a brick wall and how long they’re likely to take unless you’ve first defined what it is you mean by *brick wall*. So, you were right to want to ask questions.

The sorts of questions that you may think about are:

- » How long is the wall and how high? The height is significant because we’ll need scaffolding if the wall is higher than about 2 metres.
- » When you say *wall*, does that include the foundations?
- » Where’s the wall going to be? If it’s at the front of the building and in full public view, it needs to be neatly finished, but if it’s a supporting wall that’ll be covered by an earth bank, we can leave it rough.
- » Will the wall be one brick deep or two?
- » If the wall is in public view, is it to be plain brick, Flemish bond or some intricate design with the company logo in 3D?



REMEMBER

Whatever the product, you need to define and understand it so that you can more accurately determine what tasks are needed to create the product and how long they will take.

WHO’S USING PRODUCT-LED PLANNING?

The product-led approach is in increasing use, but not always to its full extent. In its PMBoK (*Project Management Body of Knowledge*), the American Project Management Institute (PMI) refers to products as a key focus. The American military developed a product-based approach to avoid problems it had experienced with activity-based planning. In NASA, the American space agency, staff developed a guidance paper on Work Breakdown Structures, available on the NASA website, and if you look at it you’ll see that for the most part the structure shows products. Some academic bodies working in the field of project management have developed the product approach and, although they’ve re-invented the wheel in some cases, they’ve helped establish the technique. Product-led planning is also built into some project methodologies, such as PRINCE2 which expects you to use the product-led approach. Sadly it’s never been explained very effectively in the PRINCE2 manual and that weakness has led to a lot of the method’s users ignoring product planning completely, and a great many more failing to use it well.

If you're already deeply into activity-driven approaches, your response may well be that you do this sort of thinking already. If you do respond like that, great, because you're already halfway there. The product-led approach just emphasises that line of thinking and gives you some particularly powerful techniques to help.

Understanding the problems of an activity focus

Please note carefully that taking a product-led approach doesn't do away with activity planning. Activity planning is powerful and isn't only advantageous but also absolutely essential. But product planning provides a very logical and powerful front end.

Starting instead with activities brings two problems:

- » Until you have a clear idea of what you need to build, you aren't going to have a clear idea of the activities required and are highly likely to miss some out. In turn, that means that you're likely to underestimate the effort and time needed for the project, which, indeed, is a very common cause of project problems.
- » Even where you correctly identify activities, time estimates are likely to be wrong. Returning to the example of the task to build a wall that we use in the previous section, clearly the time needed to build a small garden wall and the time needed to build something on the scale of Hadrian's Wall – built by the Romans from coast to coast across the north of England – will be hugely different.

Many projects, encouraged by books and software, plunge into activity planning without proper thought about what is to be produced. It's no wonder then that estimates of time and cost are inaccurate and the project is later plagued with problems where essential work is identified during the project that isn't on the plan. Many time sheets built into project scheduling software have a section for 'Unscheduled activity' where project staff can report work they're having to do that wasn't foreseen and so isn't on the plan. Such problems lead to projects being late in delivery and overspent on budget.

Knowing What a Product Is – and Isn't

There are a few refinements on what products are, but the starting point is extremely simple. A *product* is something that one of your project teams (and that may be just one person) builds. When a Team Leader comes up to you and says, 'We've finished it, here it is,' what is *it*? A product is something that you can hold in your hand or, if it's too big for that, walk up and kick.

Products in your projects might include:

- » Brick wall – you can kick it
- » Computer program – you can print it out and hold it
- » Decorated room – you can stamp around it and kick the walls, though try not to dirty the new paint
- » Installed network – you can kick the computers, hold the cables and see from the screens that the computers are talking across the network
- » Instruction manual – you can hold it

Things that aren't products, but are commonly mistaken for them, are:

- » Designers – that's a staff resource. The designers are the people who create your product 'Office design document'. Unless your project is quite long and rather exciting, you won't be making people!
- » Money – that's a resource. Unless you work for the Royal Mint or your own country's equivalent, actually producing money is illegal and you can spend years in prison for it, causing substantial project delay.
- » Jobsworth Office Furnishings Ltd – that's a source of supply. The products are likely to be desks and chairs, and Jobsworth Office Furnishings Ltd is where you buy them.
- » Walls built – that's a point in time when the walls have all been built. You don't kick 'walls built'; instead the products that you kick are 'built walls' – or more simply 'walls', because if they aren't built, they aren't walls.
- » Writing programs – that's a task or activity.

Finding Good Product Names

As you think about your project's products, you may come up with better and more appropriate names for some of them. In the bullet point in the previous section, if you're particularly fast-thinking, you may have said to yourself that 'Jobsworth Office Furnishings Ltd' might well be a product if the project includes setting up the company. That's true, but then the product name isn't a particularly good one. The product that you hold in your hand isn't going to be the company, but rather something like 'company registration document'. As you work through the products, you're likely to think of better, more descriptive names for some – so change them.



TIP

Product names should be short and descriptive. Later on you'll be drawing up some diagrams, and you need short names to go into the boxes on the diagrams. If you have long, unwieldy names, you'll be tempted to use numbers instead, and that can cause problems.



REMEMBER

Where you're working on a project that is focused on a particular business area, stick to the terminology in use in that part of the organisation. If the engineering staff refer to something as the 'upgrade plan' and in your diagrams you call the product 'modification schedule', the engineers won't recognise the product and won't be able to say whether the diagrams are correct. Stay with their names and note down separately the definition of them if it's not obvious to you from the product titles.

GOOD AND BAD PRODUCT NAMES

Here's a snapshot of some great and rubbish product names:

- **28** – bad because you don't know what product 28 is without looking it up.
- **Fully detailed specification of the engineering operations procedure** – bad; it's too long.
- **New user manual** – good; it's short and descriptive.
- **15. Approved design** – even better; it's short, descriptive and has a reference to its Product Definition – which is, in this example, number 15.

Using a Business Project Example

This part of the chapter uses an example to show how the product-planning sequence works. The example is a small business project to review and improve a business process in an accounts department, including a small update to some computer software.

Identifying the products

In the project example to review and adjust an accounts procedure, the initial products – just in the order they come to mind – are:

- » **Problems and requirements list:** A list of things that the staff say are causing difficulties with the present way of doing things, and their wish list for how they would like a revised procedure to work
- » **Updated computer system:** Adjusted to deal with any changes decided on in the revised procedure
- » **Draft of new accounts procedure:** An outline of the intended new approach
- » **Final new procedure design:** The agreed new procedure – the one that will be implemented
- » **Training plan:** A list of staff who need to be trained in the revised procedure and what they need to know
- » **Training course:** The short course of two to three hours to explain the new procedures to staff
- » **New accounts procedure:** The implemented new procedure, complete with the upgrade to the computer

For your projects, you can make up a product list from your own knowledge if you already know the business area, but even then you'll probably want to involve some other people to check that the list is correct. If you don't know the project at all, don't worry. You can do this work in a workshop format and facilitate the product planning by briefly explaining the product-planning approach and then guiding the session.

Some techniques can help bring some structure into your thinking about products – see the later section 'Using a Structured Product List'. For now, it's enough to work with a simple list.

Developing a sequence

The next step is powerful; seriously powerful. You develop a very simple sequence diagram. This is called a Work Flow Diagram or sometimes a Product Flow Diagram, though there are more names still.

The Work Flow Diagram simply shows the products in the order that they will be created in the project. Figure 5-1 is a first attempt at the sequence.

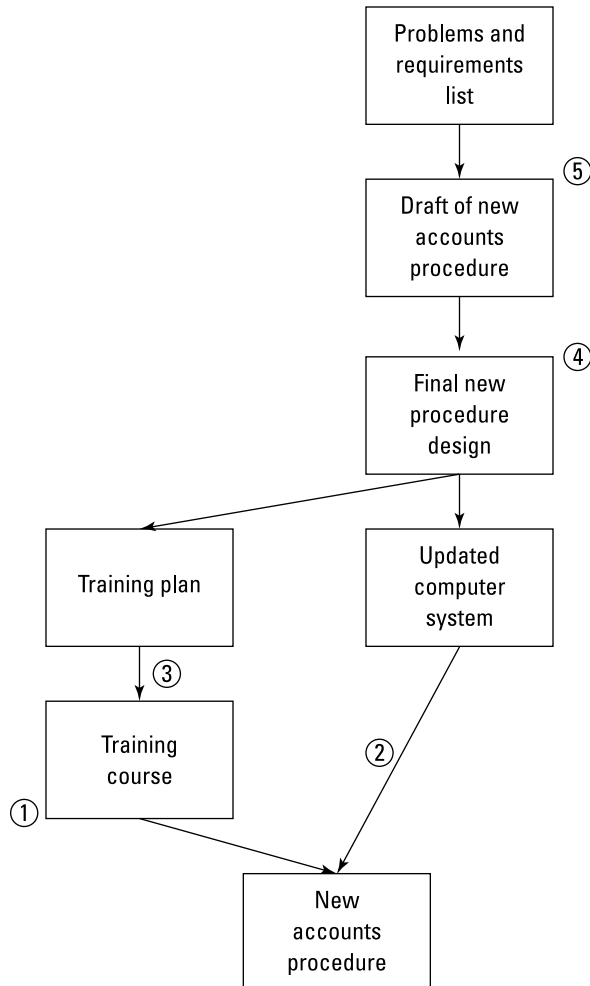


FIGURE 5-1:
Work Flow
Diagram – first
attempt.

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Checking the Work Flow – bottom up

What comes next is a vitally important, and powerful, part of the activity in drawing a Work Flow Diagram. It's called the bottom-up check. Guess where you start on the diagram. Ah, well done, you're getting the hang of this rapidly.

You do two tests in the bottom-up check:

- » For each dependency arrow, are you absolutely sure that you can't begin the later product until the earlier one is finished?
- » To build a product, you've established that you need the products shown feeding into it. The next question is, do you need any products other than those already connected by an arrow? You may find that a dependency arrow is missing from another product already on the diagram or, very commonly, you discover one or more new products that aren't on the diagram at all at the moment.

Five locations are labelled on the first attempt at a Work Flow Diagram in Figure 5-1. These mark some problems that you discover in the bottom-up check:

1. You realise that 'Training course' isn't very good name. You can't hold a training course in your hand or kick it. A better product name is 'Trained accounts staff'. In the bottom-up check, you decide that it's correct that you need a training plan to produce the trained staff, so the dependency arrow is correct.
2. You realise that you also need the updated computer system for the training course. Unless that's available, the staff won't be properly trained because they won't have seen the changes and won't know how to work the updated system. The dependency from 'Updated computer system' to 'New accounts procedure' looked right at first, but now you see that you need to change the arrow to feed into the new 'Trained accounts staff' product. The trained staff also need sight of a new procedures manual for the training, which in turn can't be produced until the computer updates have been done so that screen shots can be included in the manual; so you discover a second missing product, 'Revised procedure manual'.
3. When you check the 'Trained accounts staff' (previously called 'Training course') product further, some thinking reveals that you don't just need a training plan, but also training materials. That's yet another new product that you need to put up front of the 'Trained accounts staff' product and after 'Training plan'.

4. It was clear that people would need to look at the draft design before it was finalised, but you now see that you need a formal response from some staff, such as your finance specialists, to confirm that the new procedure complies with the latest finance regulations. Because other staff comments really should be written down so that you can keep track of them and make sure they've all been considered, you identify a new product of 'Staff comments'. These comments are a product; they can be printed off and held in your hand.
5. Finally, on looking at the 'Draft of new accounts procedure', you see that the team will need a copy of the existing procedure manual to be sure they're clear on how things work at the moment in order to be able to correctly specify what the changes are.

The bottom-up check has discovered the missing products of Training materials, Current procedure manual, Revised procedure manual and Staff comments, and has also revealed that you need to change some dependencies.

Time for a re-draw of the Work Flow Diagram then – see Figure 5-2.

Seeing what's inside the project and what's outside

In Figure 5-2 you may have noticed that most products are in a rectangle but two are in ovals. The shapes discriminate between internal and external products. An *internal product* is a product that will be developed by one of the project teams. An *external product* is one that won't be developed by a project team, although it may be a very important product. External products fall into two groups:

- » **Products that already exist** (like the Current procedure manual in Figure 5-2). If the product already exists at the start of the project, clearly a project team isn't going to build the product during the project.
- » **Something supplied from people outside the project** (like the Staff comments in Figure 5-2). The product may be very important, but it won't be built by one of the project teams. In a computer project, it's unlikely that your teams will build the computer, but it's a very important product and the project can't go ahead without it.

The ovals and rectangles make the project boundary clear. In Figure 5-2 the ovals are to the outside of the diagram – although it isn't always possible to do that – so the boundary is particularly clear and is shown with a dashed line. When doing this for real you don't normally show the boundary line.

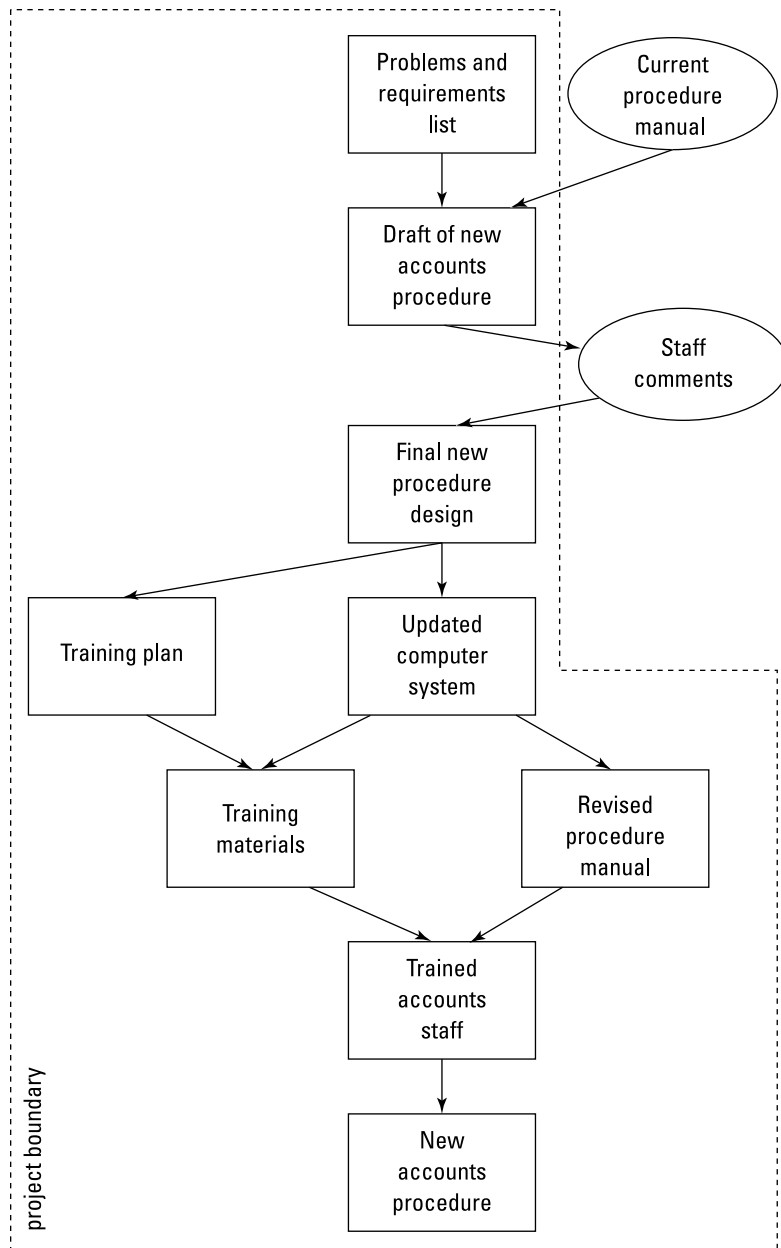


FIGURE 5-2:
Work Flow
Diagram –
adjusted.

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Sticking to a limit of 30 products

The number of boxes in the diagram should be between about 15 and about 30. If you go much beyond 30, the diagram gets too complicated and you find that you can't see anything; it all starts to look like a ball of string. In a small project, you have space to go into quite a lot of detail. If, however, your project is to review the business processes throughout John Wiley & Sons publishing worldwide (and no, it's not a hint), then the project is so enormous that the 30 products will be quite 'chunky', to use a technical expression.

It's normal for a project to be coming up to the 30 limit quite nicely when the bottom-up check reveals big areas of the project that you hadn't realised were there, and you suddenly find that you have 50 products. The answer in that case is to combine some of the products and so show less detail in the diagram. Don't worry about combining products to stay within the limit. When you develop a more detailed Stage Plan later on for that part of the project, you can then show that greater level of detail. Chapter 9 has more on the levels of planning, including stage planning.



TIP

Where you have combined products, note down now what sub-products are contained in the new higher level one, so that you don't lose the more detailed thinking you've already done. You can note it on the Product Definition (see the section 'Defining the products'), and the information will be safe until you need to use it.

Using names, not numbers

It's extremely important to use names on the diagram and not just numbers. If you replace text with numbers (perhaps because you've chosen very long product names), the diagram loses meaning. If you have to look up the product numbers, you'll only ever understand a part of the diagram at a time.

You're also likely to miss dependencies because you can't remember what all 30 product boxes are. Sooner or later you'll make a big mistake, and sure as eggs is eggs, it'll be sooner.



REMEMBER

The problem with numbers reinforces the point that you should find short, descriptive product names so that they fit easily into the boxes and so you won't be tempted to replace the names with numbers (see the earlier section 'Finding Good Product Names'). If you want to use numbers as well as names, that's fine, and actually an advantage because you can quickly look up the relevant Product Definition, as covered in the next section.

Defining the products

For each product on the diagram, you now write a Product Definition, sometimes known as a Product Description. Product Definition is really a better term because it includes more than a description.

Have you ever heard a conversation that included the words, ‘Oh, I thought you meant . . .’? It’s that sort of conversation, with the accompanying problems of wasted money and of project delay, that the Product Definition does so much to avoid.

The *Product Definition* simply defines what the product is and also includes information on things such as the quality criteria it must satisfy and how it will be tested to make sure that it does meet them. As with the rest of product-led planning, the case for the Product Definition is logical. Unless your project involves developing an idea for the product then if you’re going to ask a team or an individual to build something for you, you’re going to have to define what it is. Where you are developing an idea though, there will be other products.



TIP

You may find this simple list of headings useful as a default, but you can always alter the headings to suit your own particular organisation or even a specific project.

- » **Reference:** A product number (a number that you can put alongside the product name in the diagram boxes).
- » **Author and date:** The person responsible for this particular Product Definition.
- » **Description:** A textual description of the product.
- » **Sub-products:** If this product is made up of any lower-level components.
- » **Quality criteria:** What quality criteria must the product satisfy to be acceptable?
- » **Tests:** To ensure that the product meets its quality criteria.
- » **Required resource:** What team hours, skills and costs you anticipate you need to build the product and to test it.
- » **Responsibilities:** As you get into more detailed planning, you can enter the names of the people (or team) who’ll be building the product and those who’ll be testing it.

TAKING THE TIME TO GET THE PROJECT DEFINITION RIGHT

In the UK, a large company asked me to provide consultancy support to facilitate a product-planning workshop for a big, business-critical project to replace machines in an industrial environment. Six staff were flown in from overseas to take part in the workshop, and three more were from within the UK, plus me, making ten in all. Part of that workshop was to produce Product Definitions for all the products. One Product Definition took four hours to produce with all ten people involved – that's 40 staff hours. What was the reaction of the participants at the end of the four hours do you think? That product planning is long winded? No, actually they were delighted. The project was extremely important and this particular product was absolutely vital, yet at the outset nobody really understood it. At the end of the four hours everyone understood the product and were agreed on exactly what it was. In a difficult, business-critical project that was going to last some 18 months, everyone thought that pinning this product down so precisely was 40 staff hours very well spent. In the same workshop, two staff produced a Product Definition for a less contentious product in just over ten minutes.



TECHNICAL
STUFF

If you're working to the American PMI standards, you'll find that the product details are stored in what the PMI calls the Work Breakdown Structure (WBS) Dictionary. Although the PMI mixes information on tasks and products it follows the same idea that you need to set down information on deliverables somewhere.

Using a Structured Product List

In the planning example used in the earlier section 'Using a Business Project Example', the initial list of products was compiled at random as products came to mind. In many projects, it can be a real help to use a bit of structure and think through the project in an orderly way, looking at different categories of product in turn.

Here's another example. If the project is a house build, you might first list all the brickwork products, then all the electrical products, then woodwork products and finally decorating products. For the electrical products, you might find it easier still if you break that into two sub-categories and think first about the lighting circuit products and then the power circuit products.

Using categories provides some helpful structure and forms a hierarchy. You might write that down in the form of indented paragraphs. Taking just the first two of the four categories for the house build, the list might look like this:

- Brickwork products
 - Foundations
 - Outer walls
 - Garden wall
- Electrical products
 - Lighting circuit products
 - Lights
 - Switches
 - 5-amp lighting cabling
 - Power circuit products
 - Consumer unit (fuse board)
 - 13-amp power cabling
 - Power sockets

If you like Mind Maps, you might prefer to list products using that format, which is essentially a hierarchy bent around in a circle. Again, you might prefer a hierarchy diagram such as that shown in Figure 5-3.

The hierarchy diagram is just like the indented list or Mind Map, only this time you show the categories and products in boxes. The advantage of this format is that you can use the same symbols as on the Work Flow Diagram (see the earlier section ‘Developing a sequence’) and show whether products are internal or external. Figure 5-3 uses the example of the new office procedure from the earlier section ‘Using a Business Project Example’.

The bottom level of the Work Breakdown Structure hierarchy forms the ‘list’ of products that you’ll carry forward to the Work Flow Diagram. In Figure 5-3 a dotted line identifies the bottom level, with the products shown in grey, even though some products are physically higher up in the diagram. The key point is that there is nothing underneath each of the boxes along that dashed line, so those boxes are all bottom level no matter where they are physically. The top box on the diagram is the whole project, and that maps to the last box on the Work Flow Diagram.

The grouping or category boxes, shown with a rounded rectangle symbol in Figure 5-3, are effectively headings and not products and so don’t form part of the product list. The category boxes simply show why that set of products have been grouped together.

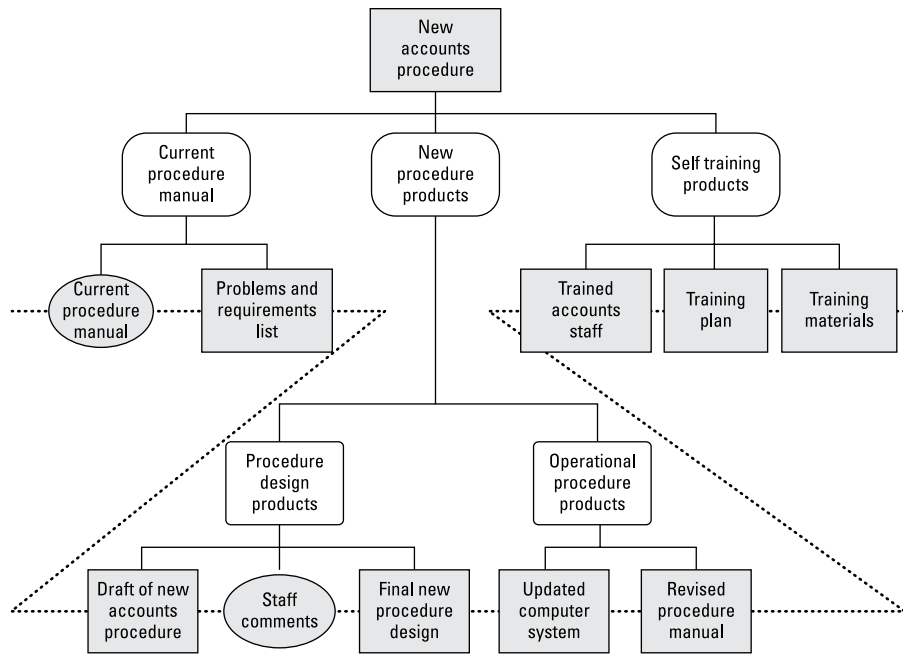


FIGURE 5-3:
A product
hierarchy
diagram – the
Work Breakdown
Structure.

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You can usually use whatever groupings or categories you like to help you think through the project systematically. In larger projects involving contracts, however, a common grouping is by contract. If the subject of the whole project is unfamiliar to you and you don't know what the high-level categories are, just go straight for the Work Flow Diagram and don't do the Work Breakdown Structure. The Work Flow Diagram is helpful in that case because it is a network diagram and you don't have to start at the top; you can start anywhere with the information you have.



TECHNICAL
STUFF

Different project standards use the term *Work Breakdown Structure* in different ways. In activity-led planning approaches, a Work Breakdown Structure is a diagram showing the decomposition of activities, where high-level activities are broken down into lower-level activities. However, the project guidance from the American space agency NASA shows the Work Breakdown Structure as products, with the very last level being the activities needed to build the products. NASA's approach is excellent and I'll illustrate that idea later in the activity planning in Chapter 6 – Figure 6-2 if you'd like to glance at it now!

WORKING AT DIFFERENT LEVELS OF DETAIL

This chapter focuses on project planning where you're setting out the whole of the project in the list and diagrams. However, you can use the same techniques for more detailed planning, if you need it, at stage level and at a lower level still for very detailed team or work pack plans. Chapter 9 has more on working with these different levels of plan when you need them in larger projects, and also discusses when you produce the different plans.

The levels of plan bring in huge power. In a project with ten delivery stages and up to 30 products in each one, you'll have capacity for 300 products even before you go down to work assignment level; that's an awful lot of products, considerably more than you're likely to want on your projects.

Unleashing the Power of the Work Flow Diagram

The Work Flow Diagram (explained in the section 'Developing a sequence', earlier in this chapter) is extraordinarily useful and powerful. A big advantage of using the Work Flow Diagram is finding missing products. The diagram is great for this and reveals missing parts of the project that other techniques such as the Gantt Chart just don't, or don't do very well. Now that's significant because if you establish the real scope of the project at the beginning, you can then think what activities are needed to build the products and so have a more complete Project Plan. Some projects fly off the plan almost as soon as they start, and the problem isn't with the project, it's with the incomplete plan that significantly understates the project.

Check out this example. In a large project in a multinational company, the Project Manager decided not to use the product-led planning approach, despite it having worked spectacularly well on a previous project run by a different Project Manager. They went straight in with activities and the Gantt Chart. At a progress meeting one month into the project, the project team had already discovered a lot of additional but essential work and the team estimated that that after one month the project was already one month behind!

Using the Work Flow Diagram for risk

Your organisation is probably unique in that you have absolutely no problems with external supply. Suppliers – other organisations and other projects – always provide you with exactly what you need, exactly when you need it; they never, ever let you down. Not true? Oh, so you live in the real world as well then!

The Work Flow Diagram is superb for revealing dependencies on things that are coming in from outside the project. Simply look for the ovals and you'll see products crossing the project boundary. For each one, you can ask yourself whether the supply is likely to be a problem. In some cases, if that supply fails, you can quickly and easily get an identical or similar product from somewhere else. In other cases, though, you find that you can't easily replace the supply, and so that external dependency needs to be risk managed.

A second use of the diagram in risk management is to use it as part of the risk analysis. You can work systematically through the diagram and ask, for each product, 'What can go wrong with developing this one?' It flushes out risks that other risk analysis techniques may not find.

Using the Work Flow Diagram for control

Another powerful use of the Work Flow Diagram is to bring a highly effective control point into the project by deliberately creating a bottleneck. I suggested this when providing project consultancy to a power company. The company had a project to bring a new and novel approach in to control part of the operational side of power supply, but the project team members weren't sure that what they were trying to do was even theoretically possible. I suggested having a *proof of concept* product fairly early in the project. Only if they could demonstrate that the idea was at least theoretically possible would the Project Steering Group (PSG) allow more substantial work on the project to go ahead. I then suggested that the Project Manager should have this product as a bottleneck in the Work Flow Diagram.

You can get the idea of the bottleneck from the diagram in Figure 5-4 where the bottleneck product is shown as a grey box. The product dependency lines would originally have flowed all around that part of the diagram. In the power project, we deliberately changed them to flow into and out of the new proof of concept product to create this powerful control bottleneck. Only when the proof of concept product was accepted and had demonstrated that the idea was workable would authority be given to start on generating further products. And yes, if you're already thinking about delivery stage boundaries (Chapter 2 has more on stages), this product makes an ideal one because it's a major decision and commitment point in the project.

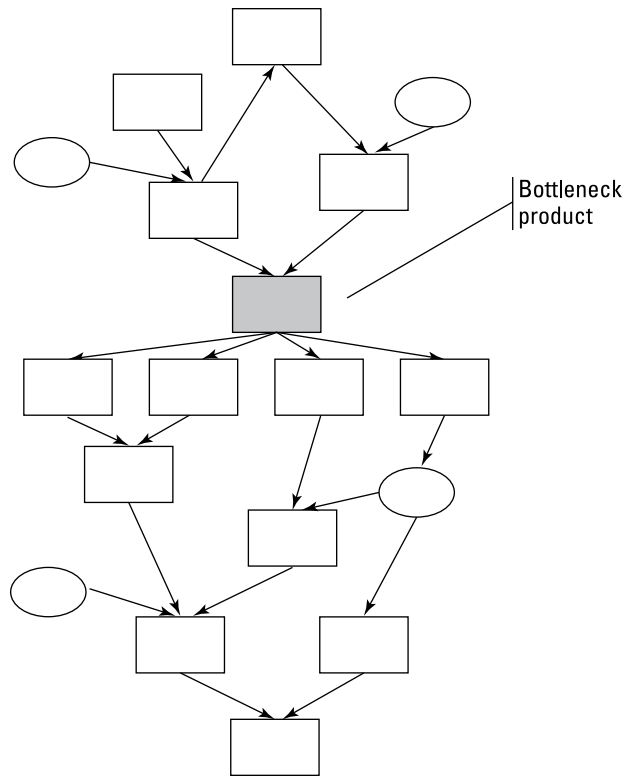


FIGURE 5-4:
Creating a control
bottleneck.

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Using the Work Flow Diagram to show stages

The Work Flow Diagram is sequential, and because of that you can map phase or stage boundaries on it if you wish. You can mark them on with dotted lines and so see them clearly.

Using the Work Flow for progress reporting

Many, or actually most, project planning tools and books suggest that you monitor progress using 'percentage complete' on activities. So, this particular activity is '60 per cent complete'. Computer planning software often shows the percentage complete on Gantt Charts by filling up the activity bar like a thermometer. Very pretty, but known to be generally unreliable. Who says the activity is 60 per cent complete; can you prove it? No, normally it's somebody's guess – sorry, somebody's estimate.

In his book *A Guide to the Successful Management of Computer Projects* (Associated Business Press, 1978), Hamish Donaldson came up with a highly amusing but very realistic rule that he calls the *90 per cent rule*. The rule is simply that the first 90 per cent of the activity takes 90 per cent of the time, and the last 10 per cent of the activity also takes 90 per cent of the time! It's that last little bit that goes out, and out, and out. The work is 'nearly finished', and a month later it's still 'nearly finished'.

When they're saying that their task is nearly finished, perhaps the team really think it is. Then they find a huge problem and they have to do a lot of the work all over again. Or perhaps, though not in your organisation, of course, the team say 'nearly finished' to keep the Project Manager happy and off their backs for another week or two!

The thing about products is that they're either delivered or not delivered. *Delivered*, by the way, means checked and signed off. If the product hasn't been checked and signed off, then it isn't delivered. Progress monitoring, then, becomes a matter of factual reporting: which products are complete and which aren't.



TIP

You can make a useful Delivery Checklist listing all the products in a stage as milestones and, after you complete the activity planning, recording the target completion date for each product. Then, when the product is signed off, you can record the actual completion date.

Taking the progress monitoring a bit further, you can also colour code the project or stage Work Flow Diagram as suggested by my good friend Philipp Straehl. Philipp has worked as a senior Project Manager on very large projects and used this approach to great effect. To show just how effective this visual progress checklist is, imagine that you're a senior manager looking at the diagram for a project. Look at Figure 5-5 and ask yourself where the project is at this point in time.

No-brainer, isn't it? Using colour or shading turns the Work Flow Diagram into a superb visual progress chart based not on an opinion or estimate of progress, but on factual reporting of what has been delivered and what hasn't.

You can make the diagram even more meaningful by having four states of product indicated with four different colours such as:

- » **White:** Those products that haven't been started yet
- » **Amber:** Those products that are currently being worked on
- » **Green:** Those products that have been quality checked, signed off and delivered
- » **Red:** Products under construction that are already overdue or which are expected to be late (if any).

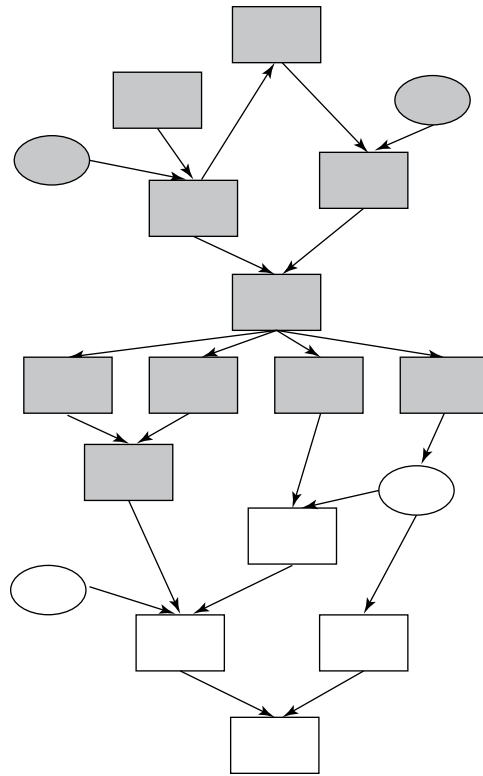


FIGURE 5-5:
The Work Flow
Diagram as a
visual progress
chart.

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Using the Work Flow Diagram for progress reporting makes the point that all products on a plan should be used as milestones; in other words, 15 to 30 milestones (see the guidance in the earlier section ‘Sticking to a limit of 30 products’). You can find more on the value of products as milestones for progress control in Chapter 15.

Getting a picture of the project

If you’ve been involved in project management for a while, think about the Gantt Chart from the project before the one you’re currently working on. Can you remember it? Can you remember the one from the project before that? Can you even remember the Gantt Chart from your current project? Your answer to all three questions is likely to be ‘no’. Gantt Charts are excellent, but they all look pretty much the same.

A further advantage of the Work Flow Diagram is that it provides a picture of your project that's memorable and that you can hold in your head. You can bring up your Work Flow Diagram in your mind's eye as you discuss work progress with a Team Leader. Then, if you go to talk to another Project Manager about the interdependencies between your projects, you can think of the two ovals that represent products coming in from their project and how any delay or early completion of those products will affect yours.

IN THIS CHAPTER

- » Coming up with a list of activities
- » Creating an Activity Network diagram for your project
- » Finding how long the project will take
- » Understanding why only a subset of the activities affect the total duration
- » Using the Gantt Chart
- » Knowing how to estimate activity durations

Chapter 6

Planning the Activities

In Chapter 5 the planning started with *products*: what it is you're going to build and deliver. But products don't have durations – a wooden table doesn't have a time span; rather, it's the activities to build the table that have the time span. To calculate the length of the project and to know what work is to be done, activity planning isn't only extremely helpful, it's essential.

In some cases your projects will have a required date for delivery so you're going to need the activity plans to be sure that you can deliver by that time – and actually with some time to spare because you can bet your bottom dollar that something isn't going to go the way you expect.

Just in case you're a bit bothered about a new project you've been given because you can see that time is tight, you'll be pleased to know that activity planning is a huge help, even if it shows that you can't meet the required project deadline. The thing I really like about all plans is that they make things visible. If the project can't be done in the time, then the plan will show you, and then you can use the plan to tackle the problem. You could try the alternative approach, which is to hope that the timing problems will go away and that the project will just magic itself in by the deadline, but that approach hasn't proved particularly successful, so I don't recommend it.



Be ruthlessly realistic about activity timing or you will end up with a plan that is next to useless as a management tool and your project will probably fail. Don't trim down your timing estimates in order to squeeze the project into a deadline. To use an analogy, it takes half an hour to make that train journey but I've only got five minutes. Okay I'll put five minutes on my travel plan and just hope that the train is super-quick that day. Sensible? No, the train will take 30 minutes, or perhaps a bit more because of a signal failure! But a lot of people do exactly that on project plans, often caving in to management pressure to deliver the project by the time they want. So what should you do if you have a fixed deadline? More on that later in the chapter!

One part of activity planning may already be familiar to you, and that's the Gantt Chart, with its horizontal bars for the activities. It's a great diagram, but there's another one that comes first, which is the Activity Network. Some people think that this first technique is very difficult, so much so that computer project management software tools usually have an option to avoid the network and instead model the activity dependencies with arrows on the Gantt Chart. You don't need to miss out on the power of the Activity Network technique though. Switch off the Gantt arrows option if you're using a computer tool, and prepare for something that's powerful and basically very easy. In this chapter you'll find out how to move from products to activities, and how to draw up an Activity Network to work out how long the project will take and that you can work with to help meet any fixed end date. Then, finally, you'll see how to move all the information onto a Gantt Chart.

Moving From Products to Activities

Having established what the deliverables or products of the project are (Chapter 5 guides you through this work), moving to activity planning is very easy. You simply ask, 'What do we need to do to build this product?' Bear in mind that you personally may not know. Don't worry, just go and ask people who do know. You can ask team members, specialists, suppliers – in fact, anyone who knows the answer. You probably already have a good idea about who to ask because you consulted them when listing and defining the products in the first place.

Having multiple tasks to build a product

There may be a single activity or task to build a particular product, but for many products you can expect to have more than one task. A simple example is with the two tasks of 'Build it' and 'Test it'. These are two tasks for a single product, probably using different staff resources.

Listing the activities or tasks

You can produce a list in one of three ways: as a simple list, by noting the tasks on the Work Flow Diagram (see Chapter 5) or by noting the tasks on the Work Breakdown Structure (also see Chapter 5).

Here's an example activity list for three products in a project to revise a company's accounts procedure. The product name forms the heading, and the indents list the activities.

- Problems and requirements list
 - Analyse existing procedures
 - Interview staff
 - Prioritise problems and requirements list
- Draft of new procedure
 - Draft the new procedure
 - Circulate the draft
- Staff comments
 - [Await comments]

The third product, Staff comments, is an external product coming from people outside the project. By definition, then, there is no project work to be done. However, staff aren't going to send in comments in one-thousandth of a second, so you must allow a reasonable time for it in the activity plan. There are two ways of showing the delay on the Gantt Chart, and you'll find more on that later in the chapter in the section 'Understanding dependency types', under the heading of 'The lag'. For now, the waiting time is in the task list as a reminder that it will have a duration that may affect other activities. However, it's not an active task, in the sense that it doesn't require project work.



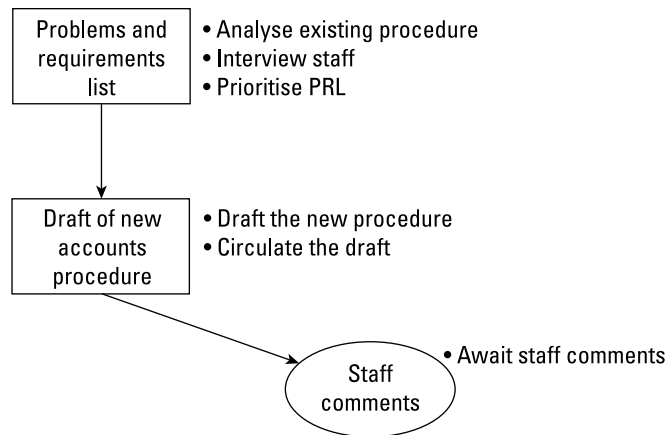
TIP

In my project plans I have always shown non-active tasks such as waiting time in square brackets, so that it is clear at a glance that it is not project work and you will see that in the example list.

Instead of writing a list, you can just add the tasks onto either of the product diagrams. If you use the Work Flow Diagram, write the tasks alongside the boxes (see Figure 6-1).

Alternatively, you can show the activities beneath the bottom-level boxes – the products – on the Work Breakdown Structure. This is a good way of listing activities, because you will usually have more space than on the Work Flow Diagram. You can group all the activities neatly in their own area of the Work Breakdown diagram towards the bottom, as shown in Figure 6-2.

FIGURE 6-1:
Tasks entered
against products
on the Work Flow
Diagram.

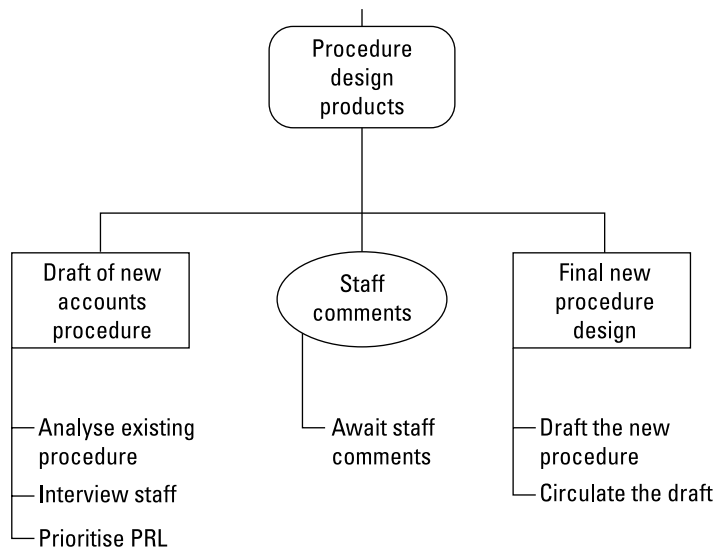


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Then again, if you used a Mind Map (see Chapter 5) to add structure when thinking through the list, you can now extend this with further branches, perhaps in a different colour, to show the activities to build each of the products, around the outer edge of the Mind Map.

It really doesn't matter which approach you use as long as you end up with a list of tasks needed to build the products. It's these tasks that you'll then use to create the Activity Network (see the following section) and, after that, the familiar Gantt Chart (see the later section 'Going for Gantt').

FIGURE 6-2:
Tasks against
products as a
bottom level on
the Work
Breakdown
Structure.



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Drawing Up a First Activity Network

To determine the amount of time you need for any project, you have to consider two aspects:

- » **Sequence:** The order in which you will perform the activities
- » **Duration:** How long each individual activity will take

For example, suppose you have a project consisting of ten activities, each of which takes one week to complete. How long will it take you to complete your project? The truth is, you can't tell. You may finish the project in one week if you can perform all ten activities at the same time and have the resources to do so. You may take ten weeks if you have to do the activities one at a time in sequential order. Or you may take between one and ten weeks if you can do some, but not all, activities in parallel.

To develop a schedule for a very small project, you can probably hold the durations and sequence in your head. But for anything larger, you're going to need an organised method to guide your analysis. The technique that's really helpful here is the *Activity Network*. Although finally the diagram will deal with project timing, you start by focusing on the sequence – the dependencies between the activities.



TIP

Computer tools are a particular help with Activity Networks, and in Chapter 20 you can find out more about the software that's available. Even if you're intending to use a tool, though, it's important to understand the technique so that you properly understand what the computer tool is doing for you.

Seeing how you build up an Activity Network

The Activity Network Diagram isn't at all difficult to understand, so, as your starter for ten points, what do you think the diagram in Figure 6-3 means? The project has just two activities so far, A and B.



FIGURE 6-3:
Basic activity
dependency.

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If you think A must be done before B, you score the ten points; well done. An equally acceptable answer is that B comes after A, so ten points for that too. Difficult, isn't it? Okay, because you're so good, here's another. Figure 6-4 shows a third activity, C, added to the project. So what can you say about when this activity is done?

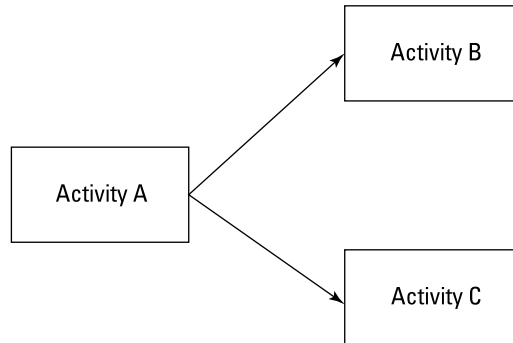


FIGURE 6-4:
Double
dependency.

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Hopefully, you see that C can be done after A, or again that A must be completed before C can be started. On, then, to the really tough stuff with the addition of a final activity, D, to the project in Figure 6-5.

Figure 6-5 shows that you need to complete both B and C before you can start work on D.

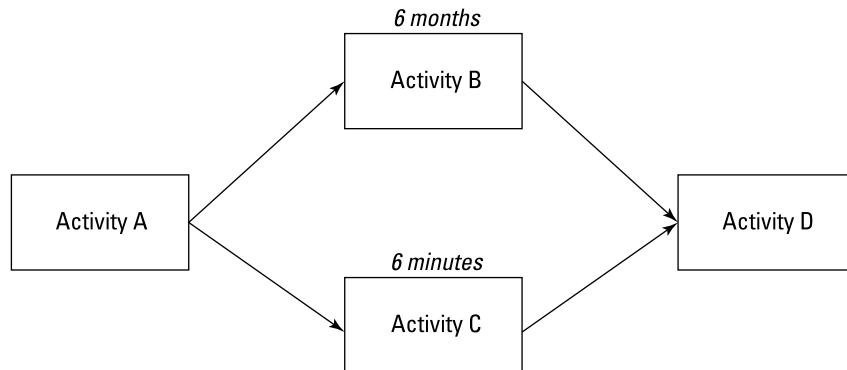


FIGURE 6-5:
Multiple feed.

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So that's it, the diagram that people find so difficult. Really, as you've seen, it's very easy and is just a network diagram showing the tasks and the dependencies between them. You can, and will, go on to put some timings onto the activities and work out things like the project duration, but you have the main part of the technique clear already.

Before getting into the full detail of timings, try one more question on the examples with the letters. In Figure 6-5 you'll see a time duration above the boxes for Activity B and Activity C. For ten more points, what do you think the time span is between the end of Activity A and the beginning of Activity D? Look back at the diagram before you read on.

Getting the right answer to the question requires you to bear in mind that both B and C must be completed before D can start, so the time duration is six months between the end of A and the beginning of D. There seems to be quite a lot of slack time for Activity C, so it's a good one for you to do personally and have an easy time of it.

Using the Work Flow Diagram

The Work Flow Diagram (see Chapter 5) is a great help when moving on to the Activity Network. If you take the Work Flow Diagram and lie it on its left side, you have the basic framework of the Activity Network already.



REMEMBER

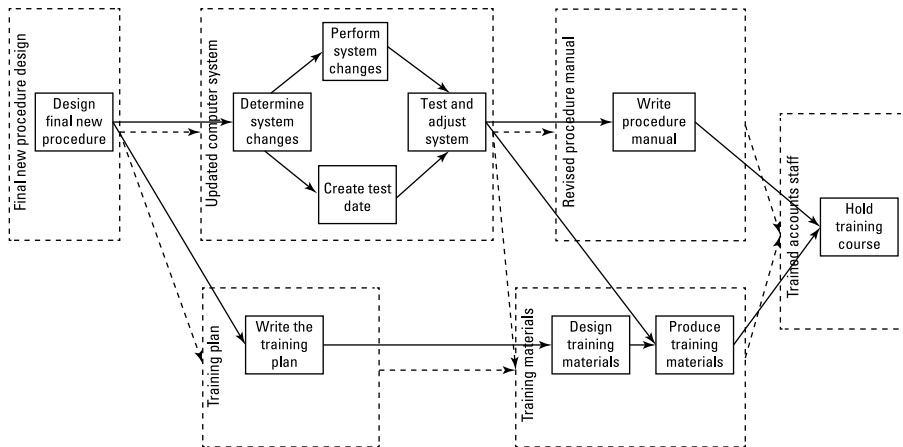
For a particular product, you may now have two or three activities, so you may have two or three boxes where you used to have one. You need to think through and then draw in any dependencies between those tasks.

You lie the Work Flow Diagram on its side because, by convention, Work Flow Diagrams go from top to bottom whereas Activity Networks go from left to right. Although the orientation of the diagram may be mere convention and seems unimportant, if you're ever going to have to work with other people who are used to these diagrams it's best to follow the standard approach. Reading a diagram that's flowing in a different direction from the one you're familiar with is surprisingly hard.

Where the dependency lines used to flow between the 'outer' product boxes, you're now attaching them to the 'inner' activity boxes. The link from a previous product may not always be to the first activity within a succeeding product box, so think carefully. Figure 6-6 provides an example in which a flow from 'Test and adjust system' feeds into 'Produce training materials' and not into the activity 'Design training materials'. That dependency is because in this project the design doesn't need screen shots from the adjusted system, but the finished materials do.

Figure 6-6 uses the procedure change project example from Chapter 5, but only part of it to keep the diagrams to a manageable size for the book. You can see that tasks have been identified for each product and the activity dependencies worked out. Although the dependencies are more detailed than those on the Work Flow Diagram (there are more boxes to deal with), the underlying dashed boxes of the products show that the main framework of these dependencies was already in place.

FIGURE 6-6:
The Activity
Network based
on the Work Flow
Diagram.



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REMEMBER

Activity planning is much faster to do if you've done product planning first. If you're clear about what you're producing – the products – then either you or team specialists can more easily determine what activities are needed and estimate how long they are likely to take.

Putting in the time durations

So far, you may think 'interesting, but the Activity Network hasn't taken me very far forward'. However, now comes the bit where this technique starts to reveal some real power. Having established the dependencies between activities (see the previous section), the next step is to put some times onto the activities and, among other things, work out how long the project is going to take. For each activity, you need an estimate of how long it will take to do it – its *duration*.

Understanding staff hours and elapsed time

The Activity Network works with calendar time, sometimes referred to as *elapsed time*. That's not the same as staff hours. To give a couple of simple examples, if you

have a task to do that requires ten days' effort, but you can only spare half of each day to work on it, it's going to take you 20 elapsed days to do it. Equally, if you can work on it full time and a colleague can work with you and can also devote full days, then that ten days of staff effort will only take five days of elapsed time to complete – provided you don't get distracted and start arguing about the football or TV talent shows. Interestingly though, when working with a colleague the task might only take four days, or even less – check out Chapter 13 for more on this.

At first, you can put in a provisional duration based on the amount of staff resource you expect to be available. If it turns out that the project will take too long, and some extra staff can be freed up to work on the project, then you can adjust the network and reduce the elapsed time for activities for which there is now more resource. That's all in the fine tuning that comes later though, and the first thing is to get the initial timings in.

Estimating – the tricky bit

There's no way out of it – estimating is difficult to get right. If you find a way of getting accurate estimates every time, then patent the idea quickly and prepare yourself to be very rich.



REMEMBER

Different industries have different approaches to estimating, but the bottom line is that the most useful information you can have to hand is how long it took the last time you did an activity like this. It's worth keeping historical information from past projects because they can be an invaluable source of estimating data for future projects. Where you don't have that information, you do the best you can, but remember you can always ask other people too, such as technical specialists in the organisation (see the later section 'Getting the best information'). This is where product planning (see Chapter 5) comes in useful, because you can say exactly what it is you're building, and in turn that helps the specialists estimate more accurately based on their experience.

You'll find more detail on estimating in the section 'Estimating Activity Durations', towards the end of the chapter, but if you're new to Activity Networks, then stay focused on the technique itself for the moment.

Thinking a bit more about duration

The following can all affect an activity's duration:

- » The amount of work effort required to complete the activity
- » People's availability
- » Whether people can work on the activity at the same time

- » The availability, and sometimes capacity, of non-staff resources such as a specialised bit of kit needed for testing
- » Delay (for example, if your boss spends 30 minutes reading your report after it sat in their inbox for four days and seven and a half hours, the activity's duration is five days, even though your boss spends only half an hour of working time on it)

In many cases, you can see up front if the duration of an activity is dependent on something other than work effort. This situation is quite common in business projects where a manager who's both very senior and very busy must do something. That manager may tell you that they'll do the three days' project work you need from them, but they can't tell you exactly when they'll do it within a given two-week period because their availability depends on the other demands on their time. In that case, you can enter the activity into the plan as 'fixed duration' of two weeks, and note separately for project costing that in fact it involves only three days of that manager's time.

Understanding the basis of a duration estimate also helps you work out ways to reduce it. For example, suppose you estimate that testing a software package requires that it run for 24 hours on a specialised computer. If you can use the computer for only six hours in any one day, the duration for your software test is four days. Doubling the number of people working on the test won't reduce the duration to two days, but getting approval to use the computer for 12 hours a day will.

Calculating the length of the project

The next bit is very easy, provided that you've mastered basic addition and subtraction, like $2 + 3 = 5$. So, assuming that you're aged 6 or over, this step in building the Activity Network shouldn't present too much of a problem. (If you're under 6, then you're getting a real jump start in your project management career – and it isn't just police officers who are looking younger these days.)

In Figure 6-7 you now see some smaller boxes inside the activity box – in fact, seven of them. You may think that these smaller boxes will make the diagram look busy, but in fact they make all the calculations very easy and very mechanical. The duration goes in the top-middle box and you choose your scale. The scale is normally elapsed days or you can use weeks; the examples that follow use weeks.

FIGURE 6-7:
Calculating
the earliest
finish date.

0	3	3
Activity A		

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In Figure 6-7 you can see that the top-left box has been set to zero, which is the beginning of the project and which is the earliest start date for that first activity. The top-right box is the earliest finish date. So, the activity starts at zero and is three weeks long. So when is the earliest the activity can finish? Here's the formula you need:

$$\text{Earliest start date} + \text{duration} = \text{earliest finish date}$$

Well, $0 + 3 = 3$, so the answer is the end of Week 3. Tricky, huh?

You can use calendar dates rather than day or week numbers. You'll find more about working with calendar dates in the nearby sidebar on the subject.

Now, you know from the dependency arrow that the next activity can start the moment that the first activity finishes: in the example, the end of Week 3. You may think that sounds a little weird and it should be the beginning of Week 4, but stay with 'end of week' for the moment because it makes the calculation very easy and very mechanical. So, just copy the figure from the top-right box of the first activity into the top-left box of any other activity coming after it and directly connected with an arrow.



WARNING

Stick to the arrow pathways at all times. Take care not to jump across the network to an activity that isn't directly connected by an arrow, or your network will go horribly wrong.

You can see the whole Activity Network calculated forwards in Figure 6-8.

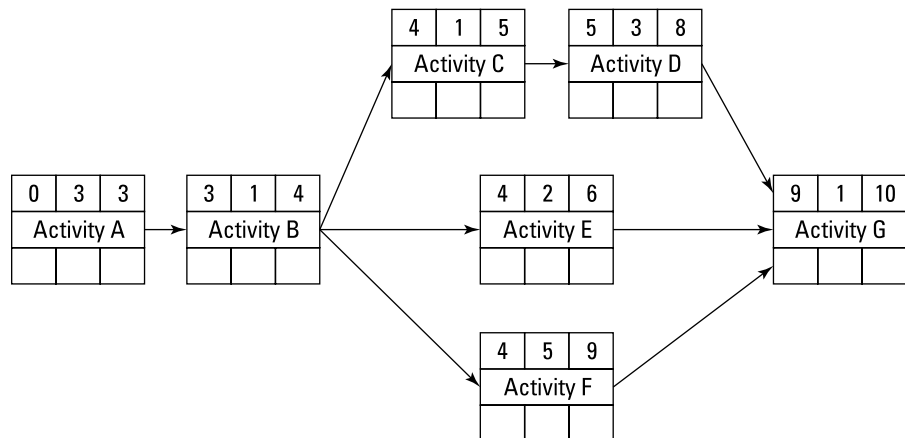


FIGURE 6-8:
The forward pass
to find the project
duration.

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The earliest start date of an activity is the same as the earliest finish date from the activity directly in front of it. Figure 6-8 reveals a bit of a problem with the last activity in the project, because three activities feed into it, not just one. In the case of more than one activity feeding in, take the highest figure or, if you're working with calendar dates, the latest date. Flick back to Figure 6-5 where the time gap across the middle of that simple network was six months, not six minutes. The point is that all the preceding activities must be finished before the current one can start, so it's the highest number from all the feeder activities that determines the start point of this one.

The Activity Network now starts to earn its keep because you can see that this project is going to take ten weeks. The total of the activity durations is 16 weeks, but the project will complete in less time because some activities can be done in parallel.

WORKING WITH CALENDAR DATES

An option with the Activity Network is to work with calendar dates rather than day or week numbers. That's fine, and all the computer tools do that. In one way it makes the network easier to understand, but in another way it's more difficult, so don't expect to find a perfect approach. If you're using a computer tool to plan the project, which is sensible if the project is anything more than very small, just one of the problems you encounter is with the start date.

Imagine you want to plan the project out but you haven't got approval for it yet, so you don't know exactly when it will start. You go to your computer tool, and as soon as you've got the project name in, it starts demanding to know the day on which you'll start the project. You don't know, but you find to your annoyance that the tool won't move off that screen until you've entered a start date. In frustration, you enter '1 November', which is in two weeks' time. As you then put in durations, the tool tells you that you can't schedule work for certain days because they're end-of-year public holidays and aren't working days. 'But,' you explain patiently to the screen, 'those activities may not clash with holidays because I may not get approval for this project until January anyway.' Then you look more closely at your computer and realise it doesn't have ears.

I saw, and have kept, a great cartoon of a bear sitting in front of a PC having just smashed a huge paw through the screen. The caption was, 'Please enter your response'. Automated tools for project scheduling are great but they can be really frustrating sometimes and make you want to emulate the bear.

Understanding Float and Its Impact

It's useful to know which activities have some spare time, and that's the next thing to find out. This is a great help when managing the project, because if someone reports that their activity is more difficult than they thought and will take a week longer than planned, you know immediately whether you can absorb that week or whether it may cause a problem. Going back to the example of doing a six-minute activity in parallel with a six-month one (see the earlier section 'Seeing how you build up an Activity Network'), you aren't going to lose a lot of sleep if the six-minute activity ends up taking ten minutes, because you still have a vast amount of time to spare.



The American term *slack* is a very descriptive one for the amount of spare time for an activity. However, the international word for this time is *float*. Computer scheduling tools mostly use the word *float*.

The first step in working out the float is to copy down the earliest finish date of the last activity – as shown in the top-right box – into the box at the bottom right, which is the latest finish date. In the example in Figure 6-8, the time shown for Activity G is ten weeks. Then you work back on the bottom line, going from right to left. What you want to calculate and put in the bottom-left box is the latest start date for that activity.

So, if the activity must finish at the end of Week 10 and is one week long, when is the latest you could start it without going beyond the ten weeks?

Given that the activity will take one week to complete, if you start any later than the end of Week 9, you won't be finished by the end of Week 10. Remember, you're working with 'end of week' figures here. To calculate the latest start, you simply subtract the activity duration from the latest finish date:

$$\text{Latest finish date} - \text{duration} = \text{latest start date}$$

So, the mind-boggling calculation is $10 - 1 = 9$; the latest start date is the end of Week 9.

Now copy that latest start date into the bottom-right box of any activity directly connected to this one by an arrow, to provide its latest finish date; follow the arrows backwards. As before, take care to follow only the arrow pathways and whatever you do, don't jump across the network where you don't have a direct arrow connection. Figure 6-9 shows the result.

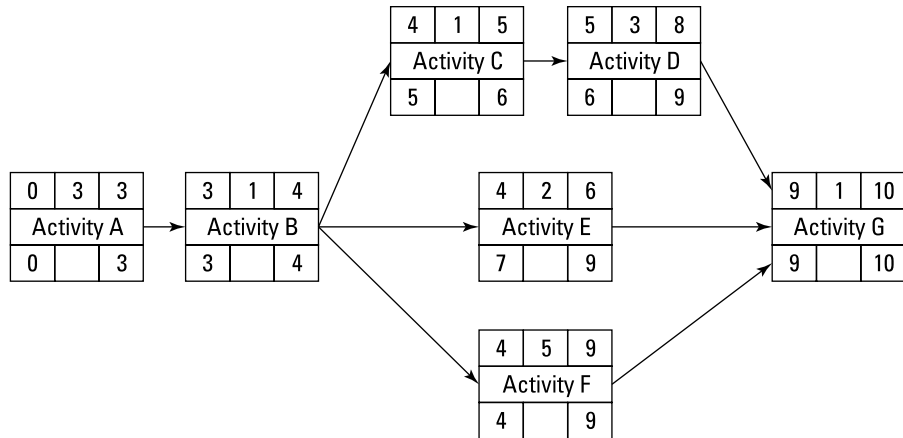


FIGURE 6-9:
The backwards
pass.

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Activity B is tricky because three activities feed back into it, so which of the three different figures is the right one? The answer on the backwards pass return trip is to take the lowest figure or, if you're using calendar dates, the earliest date. In Figure 6-9 the three options for Activity B were 5, 7 and 4, so the correct figure is 4.

If you've done all the mathematics correctly and stuck carefully to the arrow pathways, you should end up back on the far left-hand side of the diagram with zero as the latest start date of the first activity. In Figure 6-9 it is; whew!

Now, this is where the diagram gets more interesting and even more powerful. It shows, for example, that people can start working on Activity E at the end of Week 4. But the network also shows that the start of Activity E can be postponed right up to the end of Week 7 without causing a problem, because the end of Week 7 is the latest start date. That's three weeks of spare time. You can work out the float on each of the activities, and that's what the box in the middle of the bottom line is for.

You can calculate float in different ways, but the safest one is to compare the figures in the two right-hand boxes for each activity: the earliest finish date and the latest finish date. Here's the formula:

$$\text{Latest finish date} - \text{earliest finish date} = \text{float}$$

The next figure, Figure 6-10, shows the result.

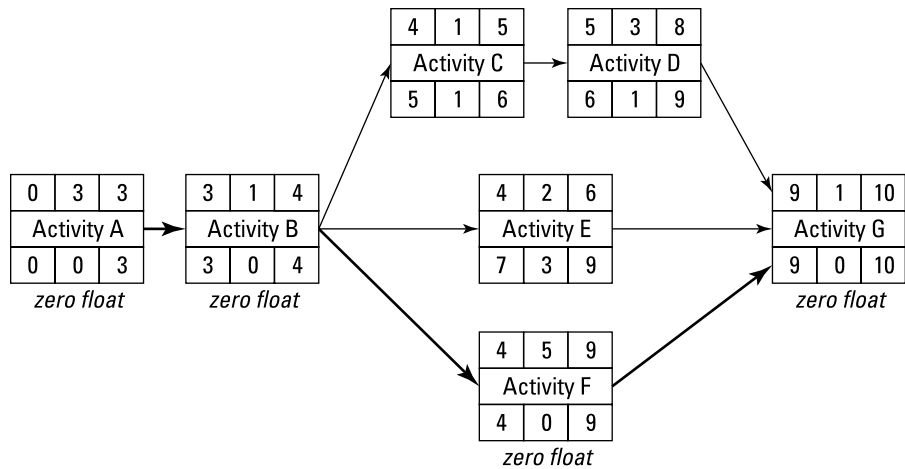


FIGURE 6-10:
The completed
Activity Network.

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Knowing the float is actually a bit better than just knowing whether you can delay the start of an activity, as you may have already realised. The float tells you how much spare time you have for that activity, whether it's in postponing the start date or the activity taking a bit longer than estimated.

Identifying the Critical Path

You may have heard of the Critical Path Method (CPM) – or Critical Path Analysis (CPA) – and think it sounds daunting. However, the good news is that the Critical Path Method is very easy; in fact, if you've drawn up an Activity Network, then you've done most of the work already.



The *critical path* is simply the longest chain of dependent activities going through the Activity Network. You can see it clearly, because critical path activities all have a float of zero. So, looking at the float boxes, just trace the zeros through the diagram and you've got it. Figure 6-10 shows this path with the heavy arrows. The critical path is significant because, as the longest path, it determines the duration of the project. If you add up the durations of the activities along the heavy lines in Figure 6-10, you find that the total is ten weeks, the length of the project.

The critical path is important in managing the project, because if you get a delay on a critical path activity, the longest path gets longer. If the longest path gets longer, that means that the project end date goes out. So slippage on a critical path activity doesn't just affect that activity but the entire project.



REMEMBER

As you manage the project, monitor all the activities carefully, but especially look out for the critical path. You also have to consider the resource dependencies – but see Chapters 7 and 8 for more on that aspect.

Watching the critical path

Planning isn't just something you do at the start of a project, but rather something you do continuously right the way through. Things change, and unless yours is the first to do so, no project ever goes *exactly* to plan. Strangely, that's what makes the plan even more important: the plan is something that you keep correcting to in order to keep the project on track.



KEY TO
SUCCESS

Keep your plans up to date throughout the project. That way, if something happens, you can look on the plan and immediately assess the impact to help you decide what to do. If the plan is out of date and only shows where the project was two months ago, it isn't going to be much help.

Staying with the example of the network used in Figures 6-8 to 6-10, imagine there's a problem part way through the project as Activity C is being done. The Team Leader reports two delays: one because a supplier was late delivering something needed for C, and one because half the team have suddenly become ill and have gone home. The Team Leader tells you that Activity C is now going to take three weeks instead of the planned one week and they can do absolutely nothing to pull the time back. So what's the impact on the project of this two-week delay?

Your first reaction may be that there is no overall impact, because there is a week of float on C and also on the following activity, D, so these will offset the two-week delay. However, if you look at the calculations on the top of the boxes in Figure 6-11, you'll find they tell a rather different story, and the project has been extended by one week.

The reason for the project delay is that Activities C and D are in an uninterrupted chain (no dependency arrows between C and D going out to other activities or coming in) and the one-week float on each of these two activities is actually the same week. So, of the two-week delay, one week has been absorbed by the float and the other week has pushed the project out by a week. Because of this change in C and D, that chain has now become the longest one in that part of the project, so the critical path moves as shown by the heavy arrows in Figure 6-11. If you recalculate the diagram on the backwards pass you find that Activity F, which used to be on the critical path, now has one week of float. Nip back to the section 'Understanding Float and Its Impact' if you need a reminder on doing the backwards pass.

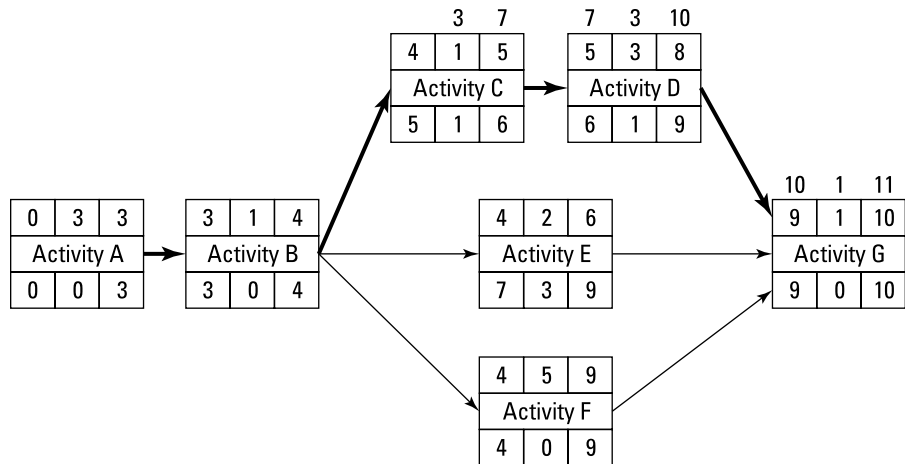


FIGURE 6-11:
A changing
critical path.

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WARNING

Be careful if you have, for example, an uninterrupted chain of three activities on the network each showing five days' float (the float figure will always be the same on each activity in an uninterrupted chain). Along that chain you have five days' float, not 15. This is known as *dependent float*. If you use all or part of the float in one activity, you've lost that much on the remaining activities in that chain.

Finding a split critical path

For good measure, here's one final twist. Suppose the Team Leader doing the work on Activity C comes to see you again, but this time with some good news. There's still a problem with the supplier, but the sick team members are now all back at work; they just had a 12-hour stomach upset after a dodgy fast-food meal at lunchtime. The Team Leader tells you that there is still a delay on C, but it will now only be a one-week delay, not a two-week delay. The activity will now take two weeks instead of the original planned one week.

The one-week delay is now completely taken up by the float, and the project reverts to ten weeks, but now both the top and bottom branches of the network are the same length, so the critical path splits into two for this part of the project. It's unusual for the critical path to split, and you normally have a single path. But if the critical path does split into two or even more for a while, don't worry – it can happen, and in the example it just did.



TWO TYPES OF FLOAT

The Project Management Institute (PMI) identifies two types of float:

- **Total float:** The total amount of time by which a scheduled activity may be delayed without delaying the project end date or a schedule constraint. So in Figure 6-11, Activity C has a week of total float because it can be delayed for that long without affecting the overall project. That is the float that you enter in the bottom-middle box.
- **Free float:** The amount of time by which a scheduled activity may be delayed without delaying the early start of any immediately following scheduled activities. In the case of Activity C, that would be zero. Any delay at all on C would affect the start of the following Activity D.

Being More Precise with Dependencies

The Activity Network as described so far in this chapter provides some great information, but sometimes you need to be more precise. You can enhance the diagram notation to give you that greater precision with the dependencies.

Understanding dependency types

The examples in all the Activity Network Diagrams so far in this chapter have needed a dependency where an activity cannot start until work on the previous one(s) has been completed. This isn't the only type of dependency, but it's the most common.

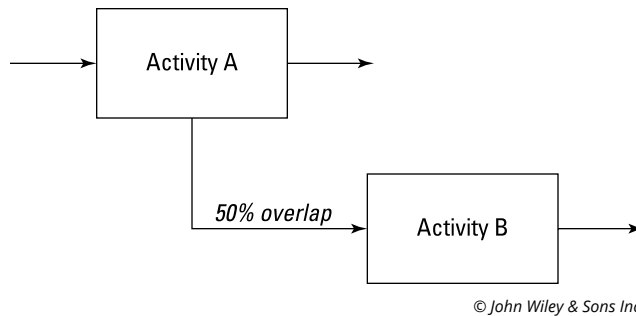
Finish to start

So, the most common sort. When you have finished one activity, you can start the succeeding one(s). It's good to know that project management isn't bound up in a lot of jargon, and this type of dependency is known as a *finish to start*.

The overlap, or lead

This is where you don't have to wait for the first activity to be completely finished before you start the next one. Figure 6-12 shows the notation.

FIGURE 6-12:
The overlap.

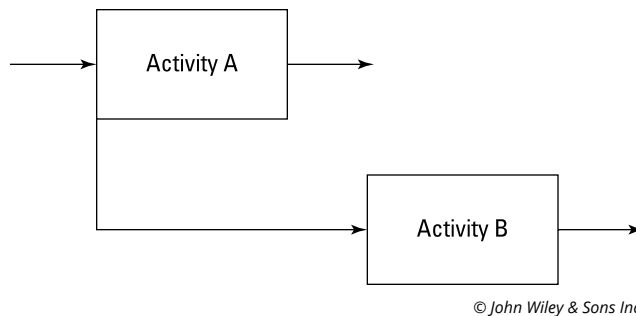


For example, think of a project that includes writing and testing computer programs. You don't usually have to wait until all the programs are written before you can start testing. As soon as some of the programs are finished you can start testing them while programmers are still writing others. It's important that you spot overlaps so you don't build unnecessary delay into your plan.

The start to start

A *start to start* dependency is like the ultimate overlap. You can't start Activity B before Activity A, but as soon as you've got going with A, you can begin B. That means that the earliest start date of Activity B will be the same as the earliest start date of A. Have a look at Figure 6-13.

FIGURE 6-13:
The start to start.



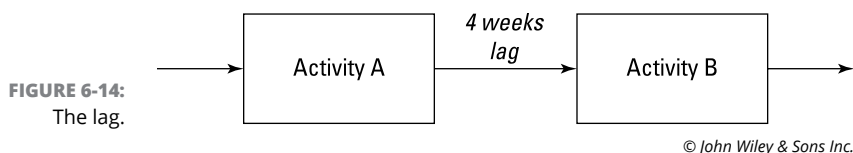
Here's an example: In a 250-kilometre gas pipeline project, a trench was dug for the pipe, but fibre-optic cable was also put in the trench to carry control signals such as those needed to operate the valves. The fibre-optic cable couldn't be put in first, because laying the gas pipe would have damaged it, but there was no need to lay all the pipe and then go back to the start to lay the fibre-optic cable. As soon as the first lengths of pipe were laid, the construction team could start laying the fibre-optic cable on top.

The lag

Sometimes there is a delay after an activity before a second one can start. You can show this in two ways.

First, you can put in a dummy activity of ‘waiting time’, which can be good because it makes the waiting time visible rather than having a weird gap in the project when you come to look at the Gantt Chart. In the example in the section ‘Listing the activities or tasks’, earlier in this chapter, the dummy activity is in square brackets so you can see at a glance that it doesn’t involve project work.

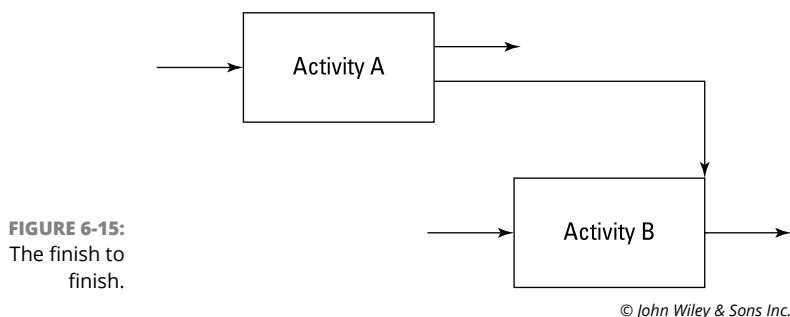
The second way to show a delay after an activity before a second one can start is to put a lag time on the dependency line. You need to adjust the earliest start date of the following activity if there is a lag. If Activity A can finish at the end of Week 6, then Activity B doesn’t begin at the end of Week 6 but rather at the end of Week 10 if you have a four-week lag, as with the example in Figure 6-14.



An example is with sending out contracts to newly recruited staff and holding the induction training. Unless you’re recruiting people who are currently unemployed, you’re likely to have to wait at least four weeks before they arrive, because they need to work a period of notice with their current employers.

The finish to finish

The final dependency type to look at is the finish to finish. You may be able to start Activity B early on, but you can’t finish it until Activity A is finished. Figure 6-15 shows this finish-to-finish notation.



USING COMPUTERS

Having hit out a bit at computers in the sidebar 'Working with calendar dates', earlier in the chapter, it's time to redress the balance and praise them a bit. When you have anything more than a small Activity Network, and when you start to use the more sophisticated dependencies, the computer tools come to the fore despite their limitations. They perform in a blink of an eye calculations that would have you scratching your head for quite some time – just make sure that you've entered the dependencies and timings absolutely correctly.

Using computer tools for activity planning is a bit like using a spreadsheet. Provided you have double-checked your data and your formulas, you can trust the spreadsheet to come up with the right answers, because computers are pretty good at that stuff. Chapter 20 has much more on using computer software in projects, and to whet your appetite you can get some of it for free.

Consider a project to produce a four-page company brochure. Activity A is to write the text and Activity B is to design the brochure. Now, because the text is important stuff, the managing director wants to write it personally. You can get a long way with the design of the brochure, but you can't finish it with that last tweak to the layout until you know exactly what the final text is.

The finish to finish affects your calculations because the end of Activity B will be determined by the end of Activity A, not the addition of the earliest start date of B to its duration.

Staying in touch with reality

There is a danger that you can get very focused on your network and become so absorbed in the times and dependency arrows that you lose touch with reality. You might look at a diagram for a project and think it isn't right because one activity finishes at the end of February and the next one that's dependent on it starts in the second week of April. That's got to be a mistake . . . or has it? The problem is that the organisation works to the standard financial year, and the money needed for the second activity won't be available until the new financial year, which starts on 6 April. So the network is actually correct: the activity's start is dependent on funding, not just on the previous activity.

If you're using a computer tool, you can deal with this situation quite easily by specifying a fixed start date for an activity – in this case 6 April. Make a note in the plan to remind yourself both that you've anchored the start date (in case circumstances change) and the reason, which in this case is the availability of finance. Other reasons include interaction with other projects where staff won't be available to work on your project until they've finished work on another that's higher priority. Turn to Chapters 7 and 8 for more on resourcing.



TIP

Be sure to follow the advice in the last paragraph of noting reasons for fixed start dates. If the project currently using the staff you need finishes early and can release the staff sooner, your activity can begin sooner. If you have forgotten that the reason for the fixed start of an activity was staff availability – and your activity network and Gantt may have a lot of activities on them – you may fail to exploit something that could really help your project. 'Hello team, good to see you. But actually I don't need you for another two weeks because your work won't start until then.'

Thinking a bit more about sequences

In thinking through the dependencies for your network, you will find that some things are fixed but others are a matter of choice:

- » **Mandatory dependencies:** These relationships must be shown correctly if project work is to be a success. They include:
 - **Hard logic:** Certain processes must logically occur before others. For example, when building a house, you must pour the concrete for the foundations before you erect the frame.
 - **Legal requirements:** Some laws or regulations require that certain activities be done before others. As an example, a pharmaceutical company develops a new drug in the laboratory and demonstrates its safety and effectiveness in clinical trials. The manufacturer wants to start producing and selling the drug immediately but can't. The law requires that the company obtains government approval for the drug before selling it.
 - **Procedural requirements:** Company policies and procedures require that certain activities be done before others. Suppose you're developing a new piece of financial software for your organisation. You've finished your design and want to start the programming. However, your organisation follows a systems development methodology that requires the formal management and audit approval of your design before you start programming to ensure that the software will be correct, robust, legal and secure.

» **Discretionary dependencies:** You may choose to establish these relationships between activities, but they aren't required. They include:

- **Choices:** Sometimes you make arbitrary decisions to work on certain activities before others. Imagine that you have to perform Activities C, D and E. Your work will be too fragmented if you work on all three at the same time, and there's no legal or logical reason why you should work on one or the other first. You may choose to work on Activity D first, then E and then C out of personal preference, perhaps getting the most difficult one out of the way first.
- **Logical dependencies:** Performing certain activities before others sometimes seems to make the most sense. Suppose you're writing a report. Because bits of Section 2 will relate to what you write in Section 3, you decide to write Section 3 first. You could do them in number order and write Section 2 first, but that option increases the chance that you'll have to go back and rewrite some of Section 2 after you finish Section 3.

» **External dependencies:** Starting a project activity may require that an activity outside the project be completed. For example, imagine that your project includes an activity to test a device you're developing. You want to start testing right away but, because you don't want to hire in equipment and increase project costs, you can't start this activity until your organisation's own test laboratory receives and installs a new piece of test equipment that's currently on order.



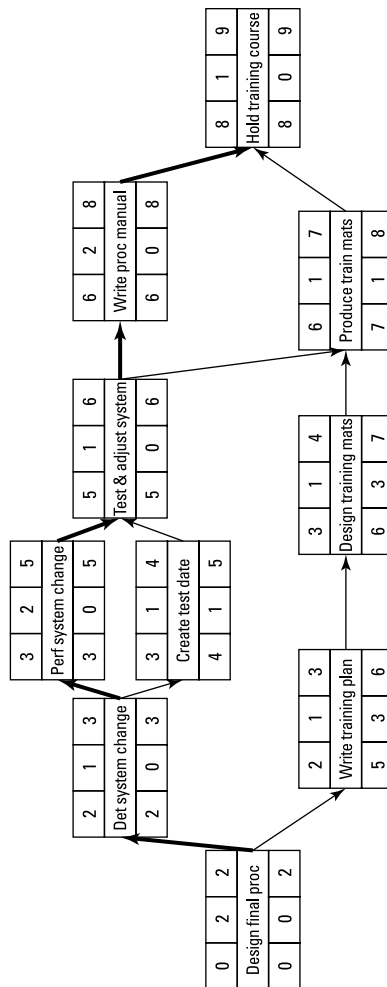
WARNING

Discriminate very clearly between activity dependencies that are mandatory and those that you've chosen, and note the details in your plan. Where you've chosen to do things in a particular sequence, you can alter it later if you change your mind. You can't change your mind about the legal constraints affecting activity sequence, though; they're fixed and you must live with them. Notes in the plan also help other people to understand why you've set up the dependencies in a particular way.

To give a more meaningful example than A's, B's and C's, Figure 6-16 is the Activity Network for part of the business change project example from the earlier chapters.

The example in Figure 6-16 is still a 'first cut' and now needs to be examined to see, for example, whether some of the relationships are something other than finish to start.

FIGURE 6-16:
Activity Network
(Precedence
Network type) for
the example
project.



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Working with the Activity Network

As you build your Activity Network up to this point with all the overlaps and lags and showing the critical path, it's already starting to give you some really useful information. Even before you finish the network you can see whether you can meet any required end date without having to make adjustments. However, it's still early days for the activity planning and there's more to come.

In the project example in Figure 6-15 in the section ‘Being More Precise with Dependencies’, it’s clear that computer work is going to determine the length of the project. You may already be making a mental note, then, to make doubly sure that the computer people have the time put aside for this job so that it won’t get delayed. Such thinking is actually a start into risk management (see Chapter 10). A lot of risks come to light during planning; so be sure to note them down and start thinking about them now.

Something else you may notice from the network, if you already know who’ll be doing what, is a resource constraint. If you happen to know that the person who’s making the adjustments to the computer system is the same person who’ll be producing the test data, then although these two activities aren’t dependent on each other logically, a resource constraint emerges because one person can’t do two full-time jobs simultaneously. Resource planning and dealing with resource conflicts is covered in Chapters 7 and 8.



REMEMBER

You may be starting to think that this planning stuff is really interesting, but it’s also getting rather detailed. The answer to both issues is, ‘Yes, it is, isn’t it?’ The detail is important, however, because it recognises the reality of the project. Taking the example of the resource conflict for the person adjusting the computer system, it’s just not possible for someone to do two full-time jobs on the project simultaneously. The resource issue is a genuine project-planning problem that needs to be resolved; it’s not merely a matter of fine detail that’s over the top and not really necessary.

Working back to meet end dates

If your network shows you can’t meet a required date, don’t panic. With the product and activity plans, you have powerful tools you can work with to adjust the project so that it will fit – and with time to spare for contingency.

My project management courses were designed to be enjoyable as well as being hard work. I often teased groups if their case study plans (often for one of the organisation’s live projects) failed to meet the required end date. I talked in low ‘gloom and doom’ tones and asked whether the plan had failed. The group members invariably said that it had, to which I responded brightly that, on the contrary, the plan was already a huge success. Even before finishing the Activity Network, the group had not only discovered that at present the project wouldn’t work, but it could say exactly what the shortfall was. Now that the problem was visible and sized, the group could work on the plans to get the project in balance.

You can't finalise the plan when you've done the Activity Network because there is still the whole area of resource planning to consider. You do get early warning of a timing problem, though, if your Activity Network shows that you will miss the end date. There will be things that you can do, and not least to identify activities that could be shortened or *crashed* by adding extra resource (usually, but not always, extra staff). If you do find activities that can be crashed, you can try to get some extra resource for your project and take that into account when starting the resource planning.

You may well be looking to reduce the duration of a number of activities, but clearly your primary focus will be the critical path (see 'Identifying the Critical Path', earlier in this chapter). Being the longest path and the one that determines the length of the project, that's the set of activities that you must ultimately reduce in duration. That may even mean leaving some out and so reducing the scope of the project to fit the time available.



WARNING

When looking to see whether you can crash an activity to reduce its duration, think carefully. On some activities, you simply make things worse if you add extra people. If you need the inside of a small walk-in cupboard painted and it will take one person half an hour, then it's sad but true that putting 30 people on the job won't get it done in one minute. That's a light-hearted example, but it does illustrate the impact of a physical constraint.

One you're more likely to come across is a complex task where you need just one or two people to focus on the job and where the work just doesn't lend itself to being done by a bigger team.

Ultimately, your aim is to have a plan that shows everything can be done by the end date, and with a bit to spare for contingency because you can be confident that something's going to go wrong somewhere.

Avoiding backing into your schedule



WARNING

When working with the schedule, it can be tempting to try to make the activities fit the time available instead of calculating the time needed to do those activities. As noted already in this chapter, but worth emphasising again here, don't do it as you are at serious risk of having the project fail.

Instead you need to adjust, primarily, the resource and scope of the project if you have a fixed deadline for the project and it won't fit. If you have more people, you may be able to work faster, or if you reduce the scope then there's less to do and the deadline can be achieved. You'll need to work with the Project Steering Group for these sort of decisions (check out Chapter 12 for more about this group).

Going for Gantt

At last, something that's likely to be more familiar territory: the Gantt Chart with its horizontal bars showing activities against a timescale. You may have wondered what *Gantt* stands for. Graphical Analysis Network Timing Tool, perhaps? No, it actually stands for *Henry*. The chart was popularised by the American management consultant Henry Gantt (1861–1919) more than 100 years ago. He may have got the idea from Karol Adamiecki (1886–1933), a Polish management thinker, but however it was arrived at, Henry Gantt is most remembered for the chart named after him; a chart that's at the hub of many project management computer tools today.



REMEMBER

The Gantt Chart is powerful but, perhaps predictably, it doesn't do everything. Used in combination with an Activity Network, it's extremely useful.

If you're using a computer tool, getting to the Gantt is automatic. As you draw the network, you find that you can switch view and see the same data in the form of a Gantt Chart. In line with the overall approach of this chapter, though, it helps if you see how to do it 'by hand' so that even if you do end up using a computer tool, you fully understand what it's doing for you.

Here's how to produce a Gantt Chart:

1. List the activities.

This is simple because you just copy in your activity list with the products as milestones or headings, and the activities to build each product listed under its heading.

2. Draw the bars.

Simply take three figures from each activity box on the Activity Network: top left, top right and bottom right, which are the earliest start date, earliest finish date and latest finish date. These three figures mark the three points on the Gantt bar showing the activity being done as early as possible, but with float at the back end showing how far it can extend before it starts to knock on into other activities. Critical path activities, of course, don't have float, so the earliest and latest finish are the same.

Figure 6-17 shows how the figures on the Activity Network map onto the Gantt bar. Because the figure is using week numbers, the position on the Gantt bar relates to 'end of week'. If you're using calendar dates, then the bottom scale will be actual dates not just week numbers.

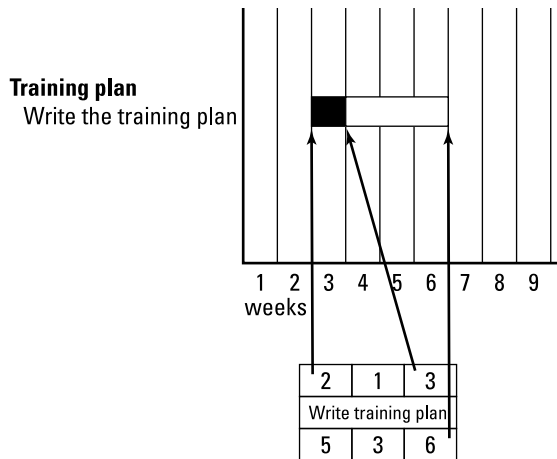


FIGURE 6-17:
Moving from the
Activity Network
to a Gantt Chart.

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To give a more complete example, Figure 6-18 goes on to show the activities for the sample project plotted onto the Gantt Chart.

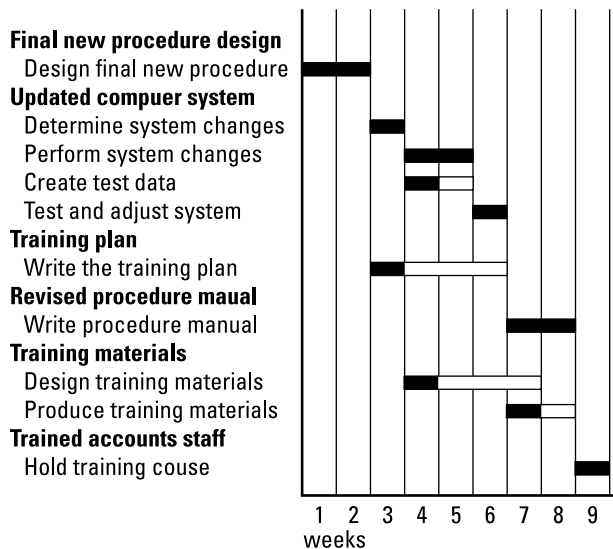


FIGURE 6-18:
The Gantt Chart
for the example
project.

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Gantt Charts are both powerful and popular because you can easily see the project mapped out, and they provide a view of where you are (more on that in Chapter 15, which covers progress control). You can use the chart at more than one level of detail, and some computer tools allow you to 'roll up' part or all of the chart to show less detail, such as only displaying activities at project plan level. You can

also open out the task list to work on the more detailed activities when you get into planning at a lower level for each stage, as you approach that particular part of the project.



REMEMBER

Although senior managers such as those on Project Steering Groups must normally approve stage-level plans, they often like to focus primarily on the project level to keep sight of the big picture. So it's the project level of detail that senior managers often ask for in progress reports.

Gantt Charts are excellent, but as Figure 6-18 demonstrates, they don't show everything. For example, the critical path is hard to see, but also if it moved because of a change in the duration of an activity, where would it go? You can see the critical path easily enough on an Activity Network, but you can't see it on the Gantt. Use the two tools together, though, and you have a very powerful combination. It's a huge shame when people miss out on the power of an Activity Network because they think networks are difficult. As you've seen in this chapter, networks are really quite straightforward. All the major computer scheduling tools support both techniques.

Estimating Activity Durations

An *estimate* is your evaluation of how long you need to actually perform an activity. The estimate isn't how long you want the activity to take or how long someone tells you it must take; the estimate is how long you think it really will take. Because estimating is quite difficult to get right, and because if the estimates are significantly out it undermines the plan, this last section of the chapter focuses on some issues to bear in mind and outlines some techniques that may help.



TIP

When you've estimated durations, add some contingency time because it's likely that something will go wrong somewhere. There's more on contingency, and where to put it on your plan, in Chapter 10.



WARNING

Unrealistically short duration estimates can lead to an interesting array of serious project problems:

- » The work simply can't be done in the time set down on the plan, so the project goes wildly off track and becomes very hard to control. This isn't because of a problem with the project but because the plan is hopelessly unrealistic and virtually useless as a management tool.

- » Because unrealistic estimates appear to meet your schedule's targets, you don't seek alternative strategies to accomplish the activities in the required timescale.
- » Because the work actually takes longer than the plan allows, delivery will be late – delivery of the end product but perhaps also intermediate products that are being taken into operational use during the project. That causes disruption to other parts of the business, including dependent projects, that expected things to be in place at a certain time.
- » If people believe duration estimates are totally unrealistic, they stop trying to achieve them. When delays occur during an activity, people accept them as inevitable instead of seeking ways to overcome them.
- » Quality goes out of the window as team members struggle to throw things together to get somewhere near to the deadlines – all those planned tests and checks just become a joke. However, those on the receiving end of the project deliverables don't share the humour when things don't work properly and cause operational problems.
- » When your project fails to meet the end date or quality has suffered badly, both the project and you are perceived as failures.

Getting the best information

If you're running a small project in an area that you're thoroughly familiar with, you can probably come up with the estimates yourself. However, after the project moves beyond small and starts to involve more skill sets and people, you almost certainly need to consult others. Where you don't know the project area at all (and that doesn't mean that you shouldn't manage the project), you'll need a lot of input from other people.



REMEMBER

Don't be scared to ask others for estimates, but then don't be surprised if you get significantly different ones for exactly the same activity. Remember, it's very difficult to get estimates right.

When you look for information and advice to help with estimating, consider:

- » Experts familiar with the type of activity, even if they haven't performed the exact activity before
- » Historical records of how long similar activities have taken in previous projects
- » People who'll be working on the activities
- » People who've undertaken similar work in the past

Using estimating techniques

The problem with projects is that they happen in different industries, and these industries tend to have their own specialised techniques for estimating. But you can use some techniques in any project, including business projects where often the closest anyone gets to a specialised estimating approach is using a blindfold and pin. Here are some examples of generic techniques.

Delphi and Modified Delphi

Had you been an ancient Greek, you might have sought guidance from the oracle at Delphi. How the oracle actually worked is lost in the mists of time, but one theory is that it was a group of wise people who consulted between themselves and then gave a single answer. Similarly, you can ask people for estimates using the Delphi technique. As to whether they're wise or not . . .

The *Delphi technique* works well in a workshop. You explain an activity and then get everyone to write down how long they think it will take to carry out the activity. You then gather up the individual estimates, calculate the average and use that as the estimate in the plan.

Modified Delphi is where you take the estimating a step further. Having got everyone's opinion, you identify the person who gave the most optimistic estimate and the person with the most pessimistic estimate and ask them to explain their thinking. The pessimistic person may say that they've done this sort of work before and it tends to be more complicated than everyone thinks because of particular factors. Everyone listens carefully. Then the person with the most optimistic estimate explains their own thinking. They may say that a team that they worked with before came up with an easier way of doing part of the work. Again everyone listens and, with the explanations in mind, they estimate again. You take the average and put it in your plan.

Three-point estimating

Three-point estimating establishes the best case, worst case and most likely case. It sometimes helps to think about the best and worst case to help you come up with the most likely. Although you will almost certainly use the most likely value for the plan, it may help to note the best and worst cases so other people can see the range and not get too worried if the work goes a bit beyond the estimate, in either direction, during the project.

The PERT formula

PERT was a project management approach developed in the 1950s and stands for Project Evaluation and Review Technique. A technique that came with the PERT

approach is a formula that's based on three-point estimating. It returns a single value for a range of estimates. The formula loads the most likely time by a factor of four against the extremes of optimism and pessimism, which have a factor of one. So with the most optimistic estimate being 'o', the most pessimistic 'p' and the most likely (or mode) being 'm', the formula is:

$$\text{Estimate} = (1o + 4m + 1p) / 6$$

In a workshop involving 20 staff, one person says that an activity will take 8 days, one says that it will take 20 days and the most common response is that it will take 11 days. The PERT formula will give a final estimate of 12 days:

$$(1 \times 8) + (4 \times 11) + (1 \times 20) / 6$$

The weighting gives a bias to the most likely estimate but allows it to be pulled a bit either way by an extreme of optimism or pessimism. The interesting thing about this formula is that it tends to work. If you find during a project that the formula produced estimates that were wrong but consistently so, then for a future project you can adjust the weighting: you might take twice the most optimistic and only three times the most likely plus the most pessimistic, and divide by six.

Putting a health warning on estimates

You can't always get accurate estimates, and that's both a worry and a comfort.

It's a comfort because you don't need to beat yourself up if, having done your best, you aren't too sure of the accuracy of your estimates. If your project is going into entirely unfamiliar territory, then you're not going to be totally confident about how long things will take. You can sometimes ask other organisations, but knowing how long it took them to do something doesn't tell you exactly how long it's going to take you to do something slightly different with the people in your organisation. You need, then, to accept that if the work is uncertain, then the estimates are likely to be uncertain too.

Not having accurate estimates is also a worry because your project may quickly go off track. While you won't find an easy answer to the problem of estimates being uncertain, you can do three things about that uncertainty:

» **Allow additional contingency.** The more uncertain you are about the estimates, the more time you need to allow for things taking longer than anticipated. Of course, they may take less time than anticipated too, but that's usually more containable and so less of a problem.

- » **Warn people.** Simply put a note in the plan to warn those reading it that the estimates may be incorrect. You can state a degree of confidence in the estimates, such as that in one part of the project you're 90 per cent confident that the estimates are broadly correct, but for another you're only 20 per cent confident. Your plan shows the most likely duration of each activity, but you can also include a table to show the best case and worst case estimates as well as the most likely. Then those reading the plan have some warning about the likely range and it won't come as a shock if things don't quite work out as set down on the plan.
- » **Update the estimates and the plan.** When better information comes to hand as the project continues, feed that new information into the plan. For example, if by Stage 3 your estimates for earlier work were fairly close, you can probably increase the confidence rating for remaining stages and be more sure of the overall project delivery date.

You can find out more about the human factors side of estimating in Chapter 7.

IN THIS CHAPTER

- » Understanding the importance of staff scheduling
- » Focusing first on people's abilities
- » Understanding why full-time staff aren't full time
- » Striking a balance among all your resource commitments

Chapter 7

Looking At Staff Resources

Unless your project is tiny, you are going to need other people to get all the work done. That may just be more hands to the pump or, more likely, it will also be cross-functional where you bring in people with different skills. Getting the people planning right is essential both in terms of getting the right staff onto your project in the first place and then using those staff in the best possible way. Although staff resourcing can be tricky – and many Project Managers tend to underestimate this resourcing – don't be daunted by it, but instead allow time to think it through and plan thoroughly. By the way, using project staff well isn't selfish either. Good project management includes giving team members opportunities to succeed and develop alongside you getting a successful project, and that needs careful thought and planning too.



When I worked on my first project full time it was as a systems analyst in IT and I thought that the project was all about data models, hardware and flashing lights, and that was where the challenges would lie. Well, there were technical challenges, but they were nothing compared to the people issues. My boss, when I moved to a project training company some years later, used to say 'Projects are about people', and he was absolutely right! To succeed in project management, you must focus clearly on the people, not merely on the technicalities.

This chapter covers the dynamics of staff scheduling and includes issues such as availability to show that full-time staff aren't really full time. The chapter also covers topics such as individual performance, multi-tasking and the working environment, all of which can have a big impact on your Project Plan. The next chapter, Chapter 8, goes on to deal with the other areas of resource planning and focuses on the physical resources such as equipment and financial resource.



REMEMBER

Whether you are in a company, a public sector organisation or a not-for-profit organisation such as a charity, you're likely to be in an environment where staff resources are limited. That means you will probably have to work with fewer staff than you would really like, so you will have to use them to the best possible effect to achieve your project goals.

Seeing Why You Need to Plan Staff Use

Before you roll your sleeves up and get stuck in to the detail of how to plan your use of staff on the project, it's helpful to be clear about *why* you need to do this planning.

Dealing with resource conflicts

The first reason that you need to plan staff resource is that your initial work to schedule staff can include clashes – things that just can't be done the way you first thought or hoped. Such resource conflicts will make your plan unworkable if you don't deal with them.

The activity plans such as the Activity Network and the Gantt Chart covered in Chapter 6 deal at first with the logical dependency of tasks, and they don't take account of resource availability until you add that in – the subject of this chapter.

Here are three areas of potential resource conflict, using an employee, Sue, as an example:

» **Multiple tasks:** You make a plan that has a number of activities including three which will take a month each. Your Activity Network shows that the three can be done in parallel and each one involves Sue working full time. However, unless Sue is Superwoman and can work three shifts a day of eight hours each – 24-hour working – for a whole month then you have a problem.

- » **Calendar events:** A task is three days' duration and Sue is required to work eight hours a day. On the plan, the task is to be done from 1 to 3 January. But now you discover a problem with the calendar. Because 1 January is a public holiday – so there are only two working days in that period, not three – the task can't be achieved. If you don't sort this out, the plan isn't going to work because the offices are shut on 1 January and Sue just won't be there. Oh yes, and four months ago she booked annual leave for 2 and 3 January because it's her partner's 30th birthday and she's booked a surprise trip to Paris, and although Sue appreciates that the project is quite important . . .
- » **Other projects:** For another task, you need Sue for five days for the week commencing 8 February. Oh joy, she isn't working on any other project activity during that week and neither are there any public holidays or birthday surprises. But just when you thought it was safe to go back in the water, you find that another project also needs her for five days in the week commencing 8 February. Unfortunately, that other project has a much higher priority than yours.



REMEMBER

The last of these conflicts reveals the messy but realistic situation where you sometimes find yourself sorting out resourcing between projects, not just within your own. That can take time – so allow some. You must allow sufficient time for planning at the front end of your project, because if you don't sort these problems out on the plan they'll hit you later on during the project when they'll be even harder to deal with. Picking up the last example again, Sue isn't going to be working on your project on 8 February even if it's on the plan in red letters, bold type and underlined. If you leave it on the plan that she'll be there, the plan is unrealistic and the project will hit a major problem on 8 February.

Having noted that resource conflicts can cause problems and that it's important to resolve them, you may now be wondering how you actually do that. The later section 'Smoothing the Resource' will help, after a closer examination of the dynamics and nature of staff resourcing.

Making sure that people are available

Some or all of your staff may not be allocated to your project full time; perhaps they are working on other things in parallel. And others may just come onto the project for a limited period when you need them. Resource availability is another reason to plan project resource carefully.

Having a good plan means that you can tell people when you'll need them and arrange, if necessary, for their managers to release them to work on the project. People both inside the project and outside it may need to see the resource plan and agree it up front to be sure that it's acceptable and realistic. The finance manager may be more than happy to give 40 hours of finance staff time to a project. However, they may be rather less happy if a Project Manager then marches up to them at the start of the last week of the financial year when things are really busy and says, 'Okay, I need those 40 staff hours you promised, starting at 8.30 a.m. tomorrow.' It will be the Project Manager's turn to be unhappy when the finance manager replies 'In the last week of the financial year? You've got to be kidding! What planet do you live on?'

The staff resource plan makes everything visible, and people who are taking part in the project or who are authorising the staff hours can make sure they can meet the commitment in terms of the number of staff, the particular skills and people involved, and the dates that you actually need them. That word *commitment* is significant because you don't want empty promises that cause you problems later when the resource doesn't materialise.

THE 'WE PAY OUR STAFF ANYWAY' ARGUMENT

Organisations that don't track project staff resource are, to be kind and understate the point, odd. Even if they aren't interested in the cost of staff, which they surely should be, having staff hours information is useful to help assess the likely staff effort needed for future projects. But anyway, time is money, as the saying goes. The normal excuse that 'we're going to pay the staff anyway so we don't need to track their hours' just doesn't stand up to scrutiny. If the staff weren't working on this project, they could be doing something else, so it's not as if their project work comes for free. Then there is an impact on the Business Case (see Chapter 3), because if you don't record staff hours, then you leave out a major – and, in a lot of projects, the biggest – project cost.

I did some work to advise a major UK charity that had a policy not to record staff hours on anything, and its projects were no exception. On one project, the Project Manager was looking at the Business Case and said that the project was great and would pay for itself because it would save a lot of administrative staff hours. I asked how the Project Manager knew that, if nobody knew the number of staff hours expended on the project. The number of project hours spent could exceed the number of administrative hours saved and it could be years before the balance tipped, if it ever did. The Project Manager couldn't answer my question, but the project effort was considerable and involved some very senior and expensive people, so the question was surely valid.

Monitoring use of staff on the project

Some organisations have procedures and even systems that detail and track every resource on every project. Other organisations don't formally plan or track project resources at all (see the nearby sidebar 'The "we pay our staff anyway" argument'). However, even if your organisation doesn't require you to plan your resource needs and track resource use, doing so is vital to your project's success. Even in terms of progress and control, how can you tell whether the project is on track if you don't know whether the actual use of staff hours on work so far is as you expected?

Matching People to Tasks

Your project's success rests on your ability to get the right people to perform your project's work. That may be in terms of suitably qualified staff or simply just getting enough people – which isn't always so easy. You begin your project planning by looking at what you need to deliver (see Chapter 5 for details on how to do this). Next, you decide what activities you'll need performed to create the deliverables (see Chapter 6). Your third step is to decide what skills and knowledge people must have to perform the activities.



TIP

It's sometimes tempting to get started on the delivery stages and go with a team made up of people who can be made available immediately. However, if suitably skilled and experienced people are not going to be available for a while, it might be better to delay the start of the project work until they are. That can be faster than giving the impression of progress by starting earlier with people who are without sufficient levels of skill and experience. Not only will they work more slowly but they are highly likely to get things wrong, which will make for more work later putting things right and re-testing. There's a sort of project 'hare and tortoise' moral here.

Working out the skill sets and knowledge that you need on the teams

To determine the skills and knowledge sets you will need for your project, you can work from the Product Definitions produced as part of your planning (described in Chapter 5). You should now develop that thinking as you consider the staff resourcing in more detail.

You can work out the skills and knowledge requirements by reviewing what is to be built, but as with planning, don't panic if you aren't sure or simply don't know.

Remember that being a Project Manager doesn't usually mean that you're a technical expert, so go and talk to other people including:

- » Any Project Managers who've run similar projects in the past
- » Possible external supplier companies
- » Staff who've worked on similar projects in the past.
- » Subject matter experts
- » Your organisation's Project Office (if it has one to provide administrative support to projects), which may have plans and other documents showing staff resource on similar past projects



TECHNICAL
STUFF

If you'd like to work in a more structured way on the staffing needs for each task, you could draw up a matrix showing the required skills level on one axis and the work areas on the other. Depending on the nature of the project work, you can even go on to more detailed analysis and include the level of proficiency needed (novice to expert, technically unqualified or qualified) and the degree of experience (newcomer to old-hand).

Growing your people

As you think through the tasks and who you will assign them to, you'll normally need to consider staff development. You want to progress in your career, and so too do your project staff. You need to bear in mind individual needs for development and organisational needs for increasingly skilled staff, as well as the need to get the project delivered. There's more on this in Chapter 13 which covers teamwork and the individuals within the teams.



TIP

Developing skills

As you look through the project tasks, look to see what flexibility there is in the plan for people to work on things where they can learn new skills and develop more competence in existing ones. Your efforts pay off in two ways:

- » You help the organisation develop its skills base
- » You interest and motivate staff, who are enjoying what they're doing and are challenged by it

For example, you might allocate someone to something that's new for them but where the task has got a bit of spare time, or put them alongside someone else who's already experienced.

Using the critical path

Chapter 6 covered the critical path technique, and that comes in useful here. If a task is on the critical path, by definition there's no spare time on it; you'll therefore usually want to assign very competent and experienced people to do the work. Equally, if a task has a lot of float (spare time), it may be more suitable for less experienced staff. If the less experienced staff take a bit longer to do it than planned, then there won't be any time impact because of the float on the activity.

Explaining yourself to experienced staff

In your project, you'll want to protect the critical path and also grow your less experienced staff. However, don't now neglect your more experienced people. More experienced staff like a challenge, and if you only allocate them to the mundane tasks that all happen to be on the critical path, they're going to get bored and demotivated. Try to make sure that experienced staff get some of the more juicy project work, and where you do need them to work on something boring because it's critical or helping to develop a less experienced team member, you can at least explain why and hold out the promise of something more substantial later on.



REMEMBER

If you're now thinking that there's a lot to bear in mind when dealing with staff resource on a project, yes, there is. But then that's why this chapter is in the book; to help you think round it all and get it right.

Identifying skills sets

You may be able to influence – even choose – which people are assigned to your project team, or perhaps people are assigned to your project without you having a say. Either way, you need to confirm the skills, knowledge and interest of your team members. Even with people who you think you know well, they may have ambitions that they don't speak much about and that you therefore didn't know. Perhaps this project can be the one to give them their dream shot!



TIP

If you're working on a project of any size, then it's often helpful to document each person's skills and knowledge and check out their interests – again you could set this up as a matrix. That skills and interests information may prove really useful later when something unexpected comes up and you need to switch people between tasks or add a new task, or if you have to replace a team member unexpectedly. So talk to people already allocated to your project and, as the project

progresses, any new people arriving. Yes, you are busy at the start of a project, but showing interest in your people benefits you in two ways:

- » You get a better understanding of their skills, knowledge and ambitions
- » You boost project morale because the staff now know that you have an interest in them, not just in the work you want them to do

Honing Your Task Duration Estimates

When drawing up the Activity Network and Gantt Chart (see Chapter 6), you already made some estimates of how long each activity will take. The estimates may be based on good information such as where you already know exactly who'll do that task and their level of experience. However, it may have been little more than a guess just to get the basic framework of the plan in place. Now's the time to work on the detail and fine-tune the plan.

Documenting your estimates

Here are two basic ways to document the resource requirements and estimates:

- » Use a project software tool with facilities for entering people's names and work estimates against each task. Good though these tools are, they do have limitations though.
- » Work out the detailed resource plan on a spreadsheet and just put basic information into the project-scheduling software. Many experienced Project Managers that I have talked with prefer this approach if the resource plan is anything more than simple because of the limitations of project-scheduling software.

Either way, you need to show who you're assigning to each task and how long that task will take. Then you need to resolve any resource conflicts to make sure that the plan is workable.



TIP

If you're using a computer-based project management tool, it will almost certainly include a calendar facility, so you can avoid some of the areas of resource conflict. For example, it should already know about public holidays and so won't let you schedule work on those days unless you've overridden the default and declared particular holidays to be working days. The better ones also have a calendar for each person working on the project, so you can enter booked holidays and other assignments, and again the tool then prevents you allocating project work involving particular staff members on days when they aren't available.

Factors in activity timing and estimates

Resource scheduling can get complicated, so don't be worried if things start to look difficult. Just work through in a methodical way and everything will come right in the end. As you work through, it can be tempting to focus simply on the figures on your plan when scheduling staff resource, but watch out because other factors can have an impact too. Here are a few things to bear in mind as you work through the activity estimates:

- » **Irregular availability:** Some staff may suddenly be less available than anticipated, so be aware of what their other duties are. If, for example, some of your technical staff are also involved with support, and a major breakdown of a vital piece of production line equipment occurs, they'll suddenly disappear from your project no matter what their percentage availability is on your plan. If the whole factory has come to a standstill, you can't insist that the staff come back to give their 50 per cent of the week to your project and finish fixing the production line next week.
- » **Multiple staff:** If two or more people are assigned to a task and must work together on it, the duration will depend on the one with the least availability. If part of the work can be done without everyone involved, that impact is reduced. A simple example is where there are two people on a task, of whom one is available part time while the other is available full time. If only part of the task requires both people working together, then clearly the one who's full time can get on with some of the stuff when the other team member is unavailable.
- » **Project dependencies:** Sometimes, work can't start until staff are released from other work such as work on other projects. So, although three of the four people on a team are ready to roll, a fourth person, who's essential, is several days late arriving because of a delay in another project. The impact of that one person's delay is that the whole team gets held up.
- » **Speed of working:** Some staff members work faster than others, and some organisations work faster than others.
- » **The team size:** If a task involves a lot of people, they tend to work more slowly than if it just involves two or three people. That's not least because of the communication and organisation needs within the team.
- » **Working environment:** Some working environments are a problem to work in with noise and interruptions (such as other people having phone conversations). Be realistic in assessing the duration of activities, and don't expect the same productivity from staff in a disrupted environment that you would from the same staff in a peaceful environment where they can focus and work with few distractions or interruptions. You'll find more on this point later in the section 'Factoring in productivity'.



TIP

WORKING FROM HOME

Where people can work independently for at least some of the time, it is often better if they can work at home. Not only is there a saving in travelling time and hassle, people often work better at home where there are fewer interruptions than in the office. The reduction in interruptions not only means that the working time itself is more productive, but also the increased concentration generally means that they make fewer mistakes, which in turn saves even more time on the project. In addition, if they are reducing travel on public transport, they are less likely to pick up an illness and spread it to half your team. If you work in Central London, for example, and are used to crowded train and tube (underground train) travel, you will know exactly what I mean.

Some years ago, I was doing some work that was very modular. On one day I needed to be in the office in Central London as cover for someone else, though in the event I wasn't needed and could get on with my own stuff. I had my 'red flag' up on my desk to indicate that I wanted to concentrate and shouldn't be disturbed unless the office was on fire, and possibly not even then. I had a good day and was pleased with how much I had accomplished. The following day I worked at home. When I took a break at about 11 a.m. and was thinking about the work done so far that morning, I realised to my amazement that I had done as many modules that day up to 11 a.m. as I had all the previous day in the office. I struggled to believe it until I thought back and started to remember the noise in the office, the distractions with people coming and going around me, and the interruptions – 'Hi, Nick. Oh, sorry, I didn't notice your red flag. But as I've broken your concentration now anyway can I ask you about . . .'

Estimating required work effort

As you develop your work-effort estimates, double-check that you have understood all aspects of each task, for example:

- » **Holding a meeting:** Don't forget the need to book the room, to order refreshments and, perhaps, to prepare briefing notes for those attending.
- » **Testing:** In the context of quality (more on that in Chapter 11) don't just put 'testing' on the plan for products and only schedule the staff time for that. Some things will fail test and so need to be corrected and re-tested.

If you are using metrics from previous projects as a base for your estimates on staff time, check that:

- » The people who performed the work had similar skills and experience to those of the people who'll work on your project.

- » The facilities, equipment and technology used were similar to those that'll be used for your project.
- » Staff time was recorded accurately. In some organisations, time sheets are referred to as 'lie sheets', and there's good reason for that! You'll find more on time sheet problems in the section 'Taking care with historical data' later in this chapter.



REMEMBER

If you know who'll be working on the activity, it really helps if you can involve those people in the initial planning, perhaps in a planning workshop. If people don't join the project team until the start of the project or during it, you can ask them to review and comment on the plans. Then adjust your plans if you need to.

Accurate estimating can be difficult, to say the least. You will find more help on estimating, including a few techniques, towards the end of Chapter 6, which covers activity planning.

Factoring in productivity

A good estimate is one that's close to how long a task eventually takes. If the estimates are good, then the project will stick pretty close to the plan and will be a whole lot easier to manage than if it keeps veering wildly off plan.



REMEMBER

It's worth spending some effort getting the task durations as close in as you possibly can. A more accurate plan saves time because if project tasks don't take the time you anticipated, then you have to keep re-scheduling everything else. 'Sorry Cheng, I know I said I needed you in Week 12, but it's now going to be Week 14. Oh sorry, something else has just shifted so it's Week 11; oh wait a minute, more breaking news ...'

Defining 'full time'

Being assigned to a project full time doesn't mean a person can perform project work at peak productivity 40 hours per week, 52 weeks per year. A lot of factors reduce the amount of productive time that team members have. During your project, your staff will probably:

- » Take annual leave.
- » Go sick occasionally.
- » Read and respond to e-mails on non-project work.
- » Talk about the football, or their holiday, or the weather. If you work in an office with other people, do you always sit straight down and start working at full capacity the moment you get in?

- » Spend some time keeping up to date on technical subjects and perhaps attending a training course booked months ago.
- » Have organisational things to do, such as read staff notices or attend departmental meetings.

So don't ever think of staff as 100 per cent available to the project. The reality is that they won't be, and if you schedule them for five full days a week then your plan won't work. Someone working full time on a project is probably available, on average, four days a week, but watch out because it could be even less.



TIP

Plan using normal working hours only and don't try to bump up availability by scheduling in overtime working. That way if you come under pressure during the project, you have overtime working as a fallback. If you've already planned in overtime, you've got nowhere left to run. Also be careful of how you think about overtime if you do come to use it later. Staff who are working long hours aren't usually as productive in the overtime hours as they are in the normal ones because they get tired. But they may not be as productive in the normal hours either. If someone knows they have a really long day ahead, they'll tend to pace themselves in the early part of the day.

Making specific adjustments

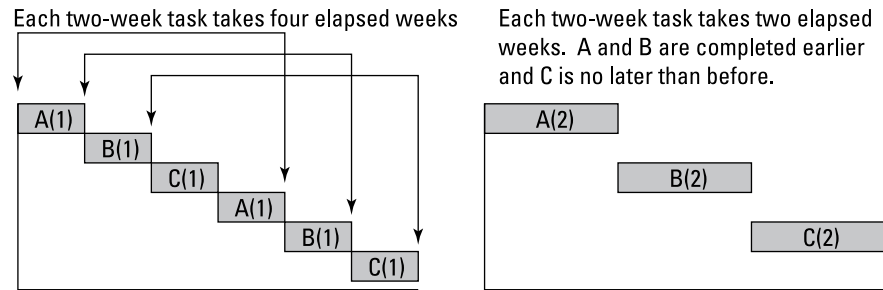
In thinking about how long something will take, you need to factor in productivity. Be especially careful where you're basing estimates on how long something took on a previous project in another organisation, or even in another part of your own organisation. What matters isn't how long it took to do an earlier job *there*, but how long it will take to do the job *here*. So, you may need to make a few adjustments, and that's in three areas:

- » Adjusting for the exact nature of the task
- » Adjusting for your people
- » Adjusting for the working environment

Thinking about the impact of multi-tasking

Where someone is working on other people's projects as well as yours and trying to do all of the work at the same time, the elapsed time of all of the tasks will be increased. The diagram at Figure 7-1 uses the example of someone switching between three tasks that they're doing at once; you may think, 'Only three things at a time? I wish!'

FIGURE 7-1:
The impact of
multi-tasking.



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If you can work with other Project Managers to organise the work so that people deal with one thing at a time, then the elapsed time of each task will be reduced. If you plan well, you can tell people exactly when you will need them, confirming it as you approach that point so they can clear the decks of other work and so give you faster delivery. As the diagram shows, even just working on one thing at a time gives an improvement, with C being delivered at the same time as before, but A and B both delivered earlier. But even that doesn't account for the extra time needed to pick up the threads if a team member breaks off work on a task and then goes back to it sometime later.

Creating a good working environment

It's worth some serious effort to get a good working environment for your teams because, obviously enough, that's going to affect their performance and, in turn, your project. If an existing team has a work environment that's hassled because they share a busy, noisy room with others, you might explore the possibility of getting them moved. If you can't move them, then at least do all you can to improve things. The improvement may be physical, in terms of good equipment, screens and so on. It may also be organisational where you arrange the work to minimise interruptions.

For example, when running projects involving support staff, I set up a hot seat system. One person on the team was designated to take all of the support calls for a week. That person would be interrupted frequently, and although they did get some project work done, productivity was low. However, the rest of the team were sheltered and could get on without distraction unless a support problem was particularly severe and more help was needed. In the next week, a different team member was in the hot seat, so the hassle was shared out and everyone could work undisturbed most of the time.

Taking care with historical data

When completed properly, time sheets provide the most reliable source of past experience. However, as mentioned earlier in the chapter, time sheets are often called ‘lie sheets’. Before relying on past metrics, make sure that you fully understand the information, and that includes a careful assessment of the organisational culture, which in turn affects how time is recorded.



WARNING

Be on your guard for the following time-sheet practices which can make the data inaccurate at best, pure fiction at worst and unreliable overall:

- » People aren't allowed to record overtime, so some hours actually spent on an activity may never be known.
- » People are required to send in their time sheets several days before the reporting period is over, so they must guess what their hourly allocations for the next few days will be.
- » People fill out their time sheets just before they go home at the end of the week. They're in a hurry to get away and can't remember with any clarity what they did in the early part of the week, so they take a wild guess and put that down.
- » People often work on non-project stuff but are supposed to be allocated full time on a project. So they spread out the hours spent on the other work across a few of their current project's time codes.
- » People report the hours that they want managers to think that they spent on the work rather than the number that they actually spent, which could be more or less.
- » People copy the work-effort estimates from the Project Plan onto their time sheets each period instead of recording the actual number of hours they spend.



TIP

If you suspect (or know of) any of these problems in your organisation, try to deal with them by getting the approach, and attitudes, changed. Perhaps some well-meaning but inexperienced Project Office insisted on early submission of time data, for example, so that resource reports can be produced on time to impress senior organisational managers. Where you are aware of problems, be careful not to rely on historical data from past time sheets to support your work-effort estimates for your current project.

In a large civil engineering company I once worked for, an authoritarian senior manager told his middle managers that if their staff were having to work overtime it was a sign of poor management. A good manager should be able to achieve things within normal working hours by having their staff working smarter not

harder. Fearful of damage to their promotion prospects, the middle managers promptly instructed their staff that the total weekly hours on the time sheets must never exceed 37.5 hours, the standard week. If they'd worked more than this, the staff were to allocate the effort proportionally among the relevant codes but keep the total at 37.5 hours. All the time-sheet information was fed into a computer system from which senior managers could get reports. A very big contract came up that was similar to a project already done, and a manager decided to get a report on the previous contract from the time-sheet system. That data was used as the basis of the bid for the contract, which the company won easily because its bid was significantly less than that of any of its competitors. When the project got underway, the Project Manager was puzzled that everything was taking much more work effort than shown in the breakdown of work on the bid. He went to see the Project Manager of the previous contract to ask how they did things with far fewer staff hours. The reply was, 'Oh, we didn't do it with fewer hours. What you're looking at is just the time we put on the time sheets!'

Accounting for availability

If you base work-effort estimates on the opinions of people who'll do the activities or who've done similar activities in the past instead of on historical records, you have to factor in a measure of availability.

First, ask the person from whom you're getting your information to estimate the required work effort, assuming they can work at 100 per cent availability. Then modify the estimate to reflect availability by doing the following:

- » If the person will use a time sheet that has one or more categories for non-project-specific work, use their original work-effort estimate.
- » If the person will use a time sheet that doesn't have categories to record non-project-specific work, add an additional amount to their original estimate to account for their true availability to the project.



WARNING

Make sure that you've made staff availability factors clear so that everyone understands the project costing. If you can't discriminate between organisational work and project work in your time information, then a four-day task will need to be entered as a five-day task to take account of the organisational overheads described earlier in this chapter (such as attending departmental meetings). However, if your cost codes allow for non-project work to be booked to a non-project code, you can enter a four-day task as a four-day task, albeit with the staff availability set to four days per week (or whatever reduction you have decided on for organisational overhead). Whichever option you need to use, make the basis for costing crystal clear in the text of the Project Plan. That way if your project looks expensive in staff time, managers will understand that 20 per cent of it is organisational overhead.

The longer someone is involved in an assignment, the more important efficiency and availability become. For example, suppose that Francesco will have to spend just one hour working on your project. You can reasonably assume 100 per cent availability, so you charge your project one hour for the assignment. However if the assignment is longer, say three months, then things such as annual holiday and organisational overheads must be factored in and you'll have to adjust Francesco's availability percentage accordingly.

Smoothing the Resource

The resource conflicts covered in the earlier section 'Dealing with resource conflicts' usually apply to staff. Sometimes, though, you encounter conflicts on things such as accommodation or specialised equipment. Non-human resource is covered in detail in the next chapter, but the way you'll deal with such conflicts is the same as with staff resource conflicts.

Checking for resource conflict

To check for resource conflict, look at what each person is scheduled to do in each time period, usually each day. If a person has more to do than there is time available in the day, then there is a resource conflict. That may be because the person has 16 hours' work to do in an 8-hour day, or perhaps it's 8 hours' work to do in a day that has 0 work hours because it's a public holiday.

If you're using a computerised scheduling tool, it either prevents you scheduling in a way that creates a conflict, or it allows you to schedule however you like, but then highlights the conflicts so you can work through them and deal with them.



TIP

You can create a Resource Histogram for each staff member to help find any resource conflicts. This shows the required hours if all the work is done as scheduled, and displays that against available hours.

Going back to Sue, the overworked team member from earlier in the chapter (see 'Dealing with resource conflicts'), Figure 7-2 shows a Resource Histogram for a few of the project tasks. Sue is clearly overcommitted and for two weeks is needed three days per day, which is asking a bit much. To resolve these resource conflicts, it's necessary to do some *resource smoothing*, sometimes known as resource leveling. Put simply, the level of required resource needs to be got down below the level of available resource.

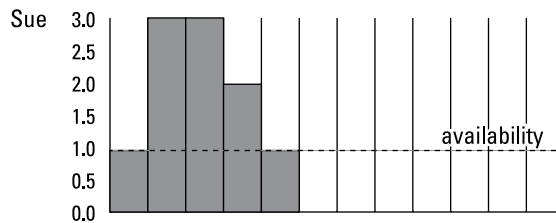
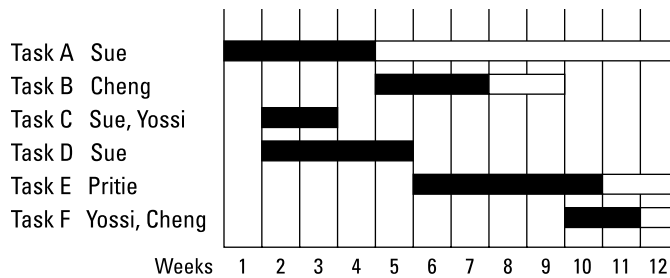


FIGURE 7-2:
A Resource
Histogram.

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Resolving resource conflicts – the steps



TIP

Here are some straightforward steps for resource smoothing:

1. Check the activity dependencies and resource allocations to make sure they're correct.

Continuing the example from the last section, you don't want to solve the problem of Sue being overcommitted if you've put her onto the tasks by mistake and you meant to enter Sam.

2. Adjust within float.

This is where the Activity Network (see Chapter 6) pays dividends. You may see from your network that the earliest start date of an activity is considerably earlier than the latest start date, so you can simply slide the activity along within its float to a time when Sue has plenty of availability.

In Figure 7-2 it looks like the start of Activity A can be delayed as late as Week 9 without causing a problem. However, you'd need to be sure that it doesn't have a knock-on effect. In this case, Activity B doesn't seem to be dependent on A (look at the float on A shown by the hollow bar) so it all looks okay and you could cross check that with the Activity Network diagram showing

dependencies and the latest start date. Had B been dependent on A, you couldn't start A later than Week 7. Again, see how the plans are so incredibly useful, in this case because the plan helps you solve resource conflicts.

3. **Adjust resource.**

This is where skills information noted previously (see the earlier section 'Identifying skills sets') may prove extremely useful. Is there someone else who has the same skill set as Sue? If so, and they have more availability at this point, can you assign one or more tasks to them instead? Or alternatively, can you put that person on the task alongside Sue to help; in other words, can you increase the resource?

4. **Move tasks downstream.**

If you've made any possible changes in steps 1 to 3 but still have remaining resource conflict, you need to move things downstream, and the end date of that work will move out. In theory, three tasks can be done in parallel, but because of a resource constraint that Sue must do all three, she'll have to do them one after the other and you'll have to accommodate the impact on the end date.



REMEMBER

Computer tools, both project-scheduling software and spreadsheets, are great for playing around to try different things. But don't forget to save a copy before you start your 'what ifs'. If everything goes horribly wrong, you'll want to be able to get back to your start point. It's so easy to save the work in the middle of the 'what ifs' and forget that you're overwriting your main file.



TIP

Where you have staff who aren't full time on the project, you can sometimes squeeze out a bit more flexibility by talking to them about how they allocate their work. For example, if Sam is available to your project for 50 per cent of their time, that needn't mean they just works mornings. If you have a resource conflict in the early part of a week, you could ask if they could work the first half of the week full time on your project then spend the second half of the week on their other assignments. In other words, concentrate the 50 per cent into a shorter period of time rather than have it uniformly spread. Depending on the nature of the other assignments, you may find they can be even more flexible than that and, say, work a full week for you when you really need it, then the following week work full time on the other assignments; it's still 50 per cent. Involving team members in estimating and resource planning pays off when it comes to asking people to be flexible to meet the needs of both the project and any other assignments.

PLANS MAKE THINGS VISIBLE

I once ran a project-planning workshop for a client where the senior manager with overall responsibility for the project was insistent that it had to be completed within nine months. I worked with the Project Manager and the team in the workshop and everything was fine with the product planning, but when it got to activity planning everyone got a bit suspicious. On doing the resource planning, it became absolutely clear that the project was going to take 15 months because of timings and resource availability. The senior manager was due to visit the workshop on the third day, the point when the team had just finished the resource planning. When the boss walked in, the Project Manager went up to him and told him about the 15-month duration on the plan. The boss said 'You're joking, it's got to be done in nine months.' The Project Manager took the senior manager over to the large whiteboard where the plan was drawn up. After studying it carefully for a few minutes the senior manager, who happily was a good one, said, 'You're right, it's going to take 15 months.' Plans make things visible.

Co-ordinating assignments across multiple projects

Working on overlapping tasks can place conflicting demands on a person, whether the tasks are on one project or several. Although sorting out these conflicts can be more difficult when more than one Project Manager is involved, the techniques for analysing them are the same whether you're the only Project Manager involved or you're just one of many.

If people on any of your project teams are working on other projects at the same time, you're going to need to look across all of their projects to check on availability, including flexibility such as moving tasks within their float. Where Resource Histograms (see the earlier section 'Checking for resource conflict') or other loading information is available for each project your people are assigned to, you can see and adjust each person's overall resource commitments by combining the information.

Figure 7-3 illustrates overall information that shows the percentage loading of commitments for someone working on three different projects.

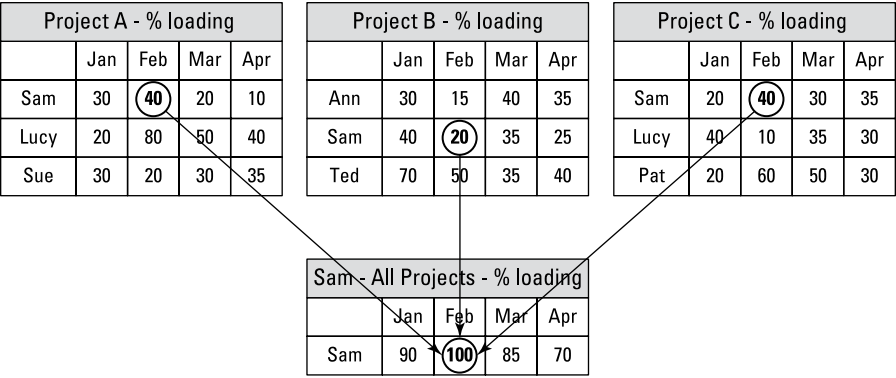


FIGURE 7-3:
Staff loading
information to
plan time on
several projects.

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- » Planning your project's physical resource needs
- » Preparing the budget for your project

Chapter 8

Planning for Other Resources and Developing the Budget

A key part of effective project management is ensuring that staff resources are available throughout the project when and where they're needed, and that's what Chapter 7 is all about. But although staff resource is extremely important, it's not the end of the story, because you're going to need other types of resource for your project too. Unless your project is somewhat unusual, you'll need money, and often you'll need physical, non-staff, resources such as special equipment, accommodation and computers. That's where this chapter fits in.



KEY TO
SUCCESS

Financial control is core in just about every organisation on the planet. Within organisational management, it is clearly the main focus of the Finance Director, but it is a major concern too for the CEO and managers down to departmental heads. As a Project Manager, make sure that you are aware of the financial issues and procedures in your organisation. Then, when you show your awareness of those viewpoints when presenting, for example, the project's Business Case, this will help to get those managers on side.

Although you need to think about the physical resource and also budget, your thinking about physical resource should mostly come first. That's because the physical resource requirements have an impact on the budget, not just in total but in terms of the timing of when you'll need money. Just occasionally it can work the other way around and limitations on the budget and cash flow constrain your options for physical resource.

You need to build the physical resource needs into your plan just like staff resource needs. If people are available for a scheduled task but, for example, the necessary laboratory equipment isn't, your project can have costly delays and unanticipated expenditures. Also, your team members may experience frustration that leads to reduced commitment. So, in most projects you're going to need to establish a clear list of physical resources and when you'll need them, as well as a budget to cover both physical and staff resource.

Determining Physical Resource Needs

As always, when you're planning, you'll often find it helpful to talk to other people, to the point of involving them in a planning workshop. In the case of physical resource requirements, you may want to talk to:

- » Potential team members who may do the project work
- » Technical specialists within the organisation
- » Potential or selected suppliers
- » Project staff, including Project Managers from any similar projects

Identifying resource needs

As you think through the resource requirements, identify any equipment your organisation already has and anything you'll need to buy or hire.

Here are some physical resources to consider:

- » Special equipment, tools and materials to:
 - Design products
 - Build products
 - Test products, such as specialised test rigs

- » Team accommodation such as team rooms or a lab for:
 - Staff from your own organisation who need to work together
 - Contractors and supplier staff
- » Accommodation or space for occasional use, such as for:
 - Storing bulky materials
 - Planning and development workshops
 - Project meetings and briefings
 - Presentations
- » Furniture and fittings:
 - Tables, desks, chairs, desk lamps
 - Whiteboards, flip charts, display screens for presentations
 - Computers, scanners and printers, including any specialised ones
 - Security containers, if you're working with confidential information
- » Communications equipment such as for video and phone conferences
- » Transport:
 - To move part-finished or completed products between sites
 - To move team members around
 - Project Manager's chauffeur-driven car – well perhaps, one day!

It's usually safe to leave out standard equipment such as if your team already has a team room equipped with desks, computers and phones.

Considering availability

It's dangerous to assume that a resource will always be there when you need it, and the more time-critical your project is, the more careful you need to be. If you think that sounds a bit like risk management (see Chapter 10), you're right because it overlaps.

Things that can affect physical resource availability include:

- » Bookings from other projects or for operational work
- » Loans of equipment to another department or site
- » Scheduled maintenance

- » Breakdown and damage
- » The likelihood of another project being delayed where that project is using the kit just before you need it



WARNING

Don't kid yourself that the 'I booked it first' argument will unfailingly hold up in the face of a demand from a top-priority, business-critical project that has the backing of the whole board of directors, the chief constable, the secretary of state or someone simply pulling rank.

Using your plans to help

As you think through the physical resource needs, do look through the Product Definitions of what is to be built (see Chapter 5 on product planning). The activity plans then give information on when that kit is likely to be wanted.

Building a Physical Resource Matrix

If you're dealing with a lot of physical resource, you may find it helpful to produce a matrix on a spreadsheet, with columns for the physical resources involved, then rows with the IDs of the products that the resources are needed for, how much of each resource is needed and when it's needed. You can make the matrix more refined if that's helpful by adding information for equipment category, source of supply and cost, so that you can sort the list in different ways when it comes to letting other people know what you need or when placing orders for purchase and hire.

Understanding physical resources

Once you have a better idea about what you need, think next about the nature of each of those resources and the best source of supply. That supply may be through your own organisation because the item is readily available, or buying or hiring it.

Your thinking here should include:

- » **Availability:** How easy is it to obtain the item? If it's easy to get hold of a piece of equipment, then you won't be too bothered if a source of supply fails, because you can get it somewhere else. However, if the item is in short supply and very hard to obtain, you may want to buy it rather than rely on hiring it, and if you're buying it, to buy it early to make quite sure you've got it.
- » **Environmental:** Does the equipment need any special conditions or have special installation requirements such as needing a special power supply? Can it be affected by things around it? Far too many people have set up a computer installation in a room directly underneath the roof area where a main water tank is sited, and then the inevitable happens.

- » **Lead times and delivery constraints:** If you need to book equipment, whether that's from within your own organisation or from a hire company, how early should you do that? You may need to adjust your plan because although you need the kit in Stage 6, you need to book it in Stage 3. Similarly, on deliveries of equipment, how much notice do you need to give for the delivery of that large item, and will the delivery be restricted, such as 'We only deliver to the South-West on Tuesdays'?
- » **Operability:** Do the relevant team members already have the skills to use a piece of equipment, or do they need to be trained to use it?
- » **Size and weight:** If something is big, do you also need to arrange some storage space while it's waiting to be installed? If it's big or heavy, are there any implications for getting it in place, such as enlarging a gate or doorway or hiring a crane to get it in through a window? Do you need to have the floor reinforced?
- » **Value:** Do you need secure storage and then booking-in and booking-out procedures? Is the item covered by your organisational insurance or do you need to take out specific insurance?



TIP

Check the spec. If someone in your organisation says 'We've got one of those – we can lend it to you,' then you'll be grateful. But before you're too grateful, make sure the specification is right. Don't assume it will be okay then find you've got a problem later when a team member finds that the equipment is an old model and won't do the job on your project.

Thinking a bit more about timing

Where you're using physical resources such as equipment, it's worth thinking a bit more deeply about when you'll need to get hold of them. The bullet list in the last section included lead times for booking when you may need to book equipment early in the project for use much later on.

The problem with booking things too far in the future, though, is that timings change – no project ever goes exactly to plan. A small delay in the project, quite normal and acceptable in terms of contingency allowances, could throw out booked slots for equipment. So you wanted the test rig in Week 23 and you booked it for Week 23. Unfortunately, a problem a bit earlier in the project resulted in a time slip, and now you need the rig in Week 24, but another project has it booked for that week. You can do three things about this problem:

- » **Contingency:** Put some contingency time into your Project Plan just before you need the equipment. That way, if a delay occurs you can absorb the problem without missing the booked slot for the equipment. However, this

option means that if the project doesn't hit a problem, your team may be hanging around waiting for the equipment if it's currently in use. That's like being hit by a reverse Murphy's Law – if it can go wrong, it won't!

- » **Fallback:** Find alternative sources of supply in advance. That way, if you miss the booked slot and the equipment is unavailable when you now need it, you already have a list of other places where you may be able to get it.
- » **Time buffer:** Book the equipment for longer than you think you'll actually need it. Depending on where you're getting it from, that could have an implication for project costs, but that may be preferable to a long delay while you wait for the kit to become available again.



TIP

Where equipment is vital and there could be delays in getting it, you may want to think about buying your own for the project, even if that's quite expensive. Suppose you need some equipment for three weeks and it will cost £8,000 to buy but only £500 a week to hire. Well, it may be worth buying it if the timing is particularly unpredictable and it's likely that your project will face a four-week delay waiting for the kit. If your project, when delivered, will save the organisation £250,000 a month, then the £6,500 extra spend is small compared with the loss of a month's benefits – and you may even be able to sell the equipment afterwards.

Preparing a Budget

In a world of limited funds, organisations are constantly deciding how to get the best return for their investment in terms of both money and staff hours. Therefore, estimating a project's costs is important for several reasons:

- » It's a vital element of the Business Case (see Chapter 3) to see whether the project is financially justified.
- » It allows organisational managers to assess whether the project should be run by comparing the costs against the benefits for this project compared with other 'candidate' projects that could be run instead.
- » It allows departmental or organisational finance staff to check that the necessary funds are available to support the project, and allocate those funds.

Managing project finance is an essential part of project management and one that's very high profile. You also know how impressive it is when a Project Manager delivers a project on time, to the required level of quality and also bang on target with the finances. The following sections examine different types of project costs and give you some tips for developing your own project budget.

Looking at different types of project costs

A *project budget* is a time-based estimate of all resource costs for your project. It normally gives a total projected spend for each stage then a total for the whole project. If some of the project's products are to be taken into use during the project, not all in one 'big bang' at the end, you may also start to see some financial savings during the life of the project. In that case, the budget usually needs to show inbound cash flow as well as outbound.

You typically develop a budget in three levels of detail as you move through the project:

1. **Ballpark figure:** You develop a rough estimate.
2. **Detailed budget:** When you're doing the more detailed project planning, you revise the budget to be more detailed and more precise using the information from the plans.
3. **Refined budget:** As you progress through the delivery stages and better information and more detailed plans are to hand, you update the budget to reflect that better information.

These three levels are covered in more detail later in this chapter.

Understanding direct and indirect costs

Your project's budget may need to include both direct and indirect costs.



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Direct costs are costs for resources solely used for your project. Direct costs include the following:

- » Specific materials, supplies and equipment for your project
- » Subcontracts that provide support exclusively to your project
- » Travel to perform work on your project

Indirect costs are costs for resources that support more than one project but aren't readily identifiable with or chargeable to any of the projects individually. Indirect costs fall into the following two categories:

- » **General and administrative costs:** Expenditures on centralised things that keep your organisation operational. Examples include salaries of your contracts department, finance department and top management, as well as fees for general accounting and legal services.

» **Overhead costs:** Costs for products and services for your project that are difficult to subdivide and allocate directly. Examples include employee benefits, rent for office space, general supplies and the costs of furniture, fixtures and equipment.

You need office space for you and your staff to work on your project activities, and office space costs money. However, your organisation has an annual lease for office space, the space has many individual offices and work areas, and people work on numerous projects throughout the year. For that reason it may treat your office space cost as an indirect one and not charge it to the project.

Salary costs for your teams from inside the organisation could go either way, so check the position with your finance people if you don't already know. Staff hours may be charged to the project's cost code, or they may be considered an administrative cost. To be clear here, the amount of staff effort for the project can be estimated, then monitored and recorded without costs actually being charged to the project finance code.

Understanding capital and revenue

Many organisations refer to costs as capital and revenue. *Revenue* is ongoing year-on-year costs such as building rental, equipment maintenance and staffing. *Capital costs* are one-off purchases such as equipment and contract staff.



REMEMBER

Some organisations prefer to use contract staff for at least some of the project work, simply because it can be accounted for as a capital cost whereas recruiting additional permanent staff would show up as an ongoing running cost. Higher revenue costs make an organisation appear less efficient because it's spending more on overheads, whereas the staff spend in capital expenditure is hidden. This may seem like political and budgetary manoeuvring, which it is, but be aware of it because it can affect the staffing and funding of your project.

Understanding capex

Within direct capital costs you may also be involved in a particular type of capital expenditure, or *capex*. This is where you buy equipment or other things that have an extended working life. Identifying such items clearly is important because they become assets of the organisation and in turn that means that their value isn't offset against tax all at once. Instead, part of the cost is set against tax each year as the value of the item depreciates over its working life.

Be clear, then, on purchases of things that have an ongoing value (such as a new machine for the production line) and what things are fully expended in the current tax year (such as using contract staff), because your finance people will need to know.

Seeing things from the financial manager's perspective

As a Project Manager, you aren't supposed to be a career finance specialist, and perhaps the very thought of assets and capex makes your head spin. However, it does help if you develop a proper understanding of the nature of your organisation's finances. This not only helps with communication on budgets, but also helps you make the life of the finance people easier. Being totally selfish, if you understand how your finance managers see things, you're also more likely to make your project pitch correctly and get approval for it.



TIP

Don't hesitate to talk to your finance people when working on the budget. That way you'll understand their needs, understand their view of the project and get them on side. Also, if you want to know more, you may consider investing in a copy of *Understanding Business Accounting For Dummies* 4th Edition by Colin Barrow and John A. Tracy (John Wiley & Sons, Inc., 2018).

Developing a project budget at three levels

Organisational decision makers would love to have an accurate budget on hand whenever someone proposes a project, so they can assess its relative benefits to the organisation and decide whether they have sufficient funds to support it. Unfortunately, you can't prepare such an estimate until you develop a clear understanding of the work and resources the project will require.



WARNING

Try to resist pressure to state a specific project budget up front before you've done any real thinking about a project. In some organisations, as soon as someone mentions the word *project*, finance managers start pushing for a specific project cost. You tell them that you don't really know, but they say, 'Well, tell us roughly how much you've got in mind – you must have some idea.' You say, 'Well, it's probably going to be about £100,000.' Unfortunately, the finance people then go away and put that figure in the accounts, and just you try changing it; it's now carved in stone.

In reality, decisions must be made about the scope of the project and how to approach it before you can prepare accurate budgets. As touched on earlier in the chapter, you develop and refine your project budget at three levels:

- » **Rough order-of-magnitude estimate:** This level is an initial estimate of costs based on a general sense of the project work in the starting the project stage. You make this estimate without detailed data. Depending on the nature of the project, the final budget may end up being much more (or less!) than this initial estimate. The decision at this point will be whether or not to continue into planning, or stop now.

Prepare a rough order-of-magnitude estimate by considering the costs of similar projects (or similar activities that will be part of your project) that have already been done, and applicable cost and productivity information, if you have the luxury of such information being available.

» **Detailed project budget estimate:** You prepare this estimate in the planning stage when developing the Project Plans. You now have a clearer idea of the work and resources needed in each stage. This budget is approved as part of the full project's approval and now provides a baseline against which you can measure project finances. However, because circumstances can change, this budget may be modified during the project, which brings us to the third level of budgeting. The decision to be made at the end of the planning stage is whether or not to carry on and start the delivery stages or to stop here and abandon the project.

» **Stage budgets and revised project budget:** As the project progresses, the financial forecast is likely to change, and that's for two reasons:

- Usually you won't know the fine detail of the work at the time of the project planning. For example, you might not know at the start of the project exactly what equipment you'll need to buy, because the capacity planning work hasn't been done yet.
- Projects are often going into the unknown, so the budget can't be exact at the outset.

As more information becomes available during the project stages and stage budgets are worked out in detail, you can calculate the implications and update the project budget. At the end of each delivery stage, with the revised budget to hand, the decision again is whether or not to carry on.

Creating a detailed budget estimate

After you prepare your rough order-of-magnitude estimate (see the earlier section 'Developing a project budget at three levels') and move into the planning stage of your project, you're ready to move to the second level of budgeting and create your detailed estimate. You can use a combination of two approaches to help develop this budget:

» **Bottom up:** Develop a detailed cost estimate for each lowest-level product (refer to Chapter 5 for more information on product planning), and add these estimates together to obtain the total project budget estimate, then adding overheads such as for the project management.

» **Top down:** Make a target estimate for the entire project and apportion this budget, pro rata, among the main categories on the Work Breakdown

Structure (explained in Chapter 5). For example, in a computer development project you may know from organisational records that the physical design usually takes around 15 per cent of overall project cost. For this size of development, you expect the overall cost to be £180,000; therefore, you anticipate that the physical design work will cost in the region of £27,000.

Dealing with the unknown

As with project planning, you can make assumptions in budgets, but keep any assumptions to the minimum and state them clearly in the explanatory text. That way, if things don't work out according to the assumption, the managers who approved the plan know that the final costs could be different.

Listing the different costs

As explained in the 'Looking at different types of project costs' section, earlier in this chapter, your budget will be more accurate and more acceptable to those giving financial approval if you discriminate clearly between cost types. So, for each part of the project, you can list the forecast expenditures with columns against each one for the different types. Remember that for some work, more than one type of expenditure may be involved, such as staff costs and equipment purchase.

Including indirect costs – or not

Whether you include indirect costs will be a matter of organisational policy. Some organisations simply ignore indirect costs for project budgets, but whether that's a good idea depends a bit on how big your project is and how many people are involved in it. If your project takes two people three weeks to do, it's arguably not that significant to add in the appropriate share of the company's legal services. However, if you have 50 staff on the project for two years, then the indirect costs are significant so the argument for including them is stronger.

Some larger organisations develop *staff rate* figures which combine hourly salary and associated indirect costs. As an example, suppose Harriet's salary in the example above was £30 per hour and your organisation's indirect-cost rate is 50 per cent. Harriet's staff rate would be £45 per hour (£30, plus 50 per cent of £30).

Showing the timing

Your budget needs to be set against a timescale for two reasons:

- » **By stage:** You'll probably want to give a stage breakdown to show the total cost of the project, and then the lower-level detail of the expected cost of each stage making up that total.

» **Calendar timing:** If your project will have irregular spends (such as a few times when you're going out to buy a lot of equipment), you'll also need to show the spend against the calendar, so that finance staff can see when you'll need money to be available. A key divide is the financial year end, and your budget will need to show what's being spent in each financial year.

For calendar timing, you may need to think very clearly about when things are ordered, delivered, charged (invoiced) and paid for. You might order something in Week 5 that is delivered in Week 9, invoiced by the supplier in Week 10 and which must be paid for within 28 days so the money actually goes out around Week 14. Or, you might call into the computer shop on the way home to buy that special cable, pay for it on the spot and claim it on your expenses the following day.



TIP

Go and talk to your finance people about their information needs if you don't already know. Find out whether they want to know when money is committed as opposed to actually spent, and what cash flow detail they need. You can then build that into your financial control and reporting.

Being clear on sub-budgets

Within the main budget, be clear what funds are for planned work and what amounts are set aside for a change budget and a risk budget. (You'll find more on the risk budget in Chapter 10 and on the change budget in Chapter 15.) The distinction is important because the funds for planned work will be spent, but funds set aside for change and risk may be only partially used, depending on the amount of change and how many risks materialise.

Refining your budget through the stages

At the third level of detail with the budget, as you work through the delivery stages, you refine the costings as you build successive Stage Plans and you also update the project-level budget with the latest information to hand.

When looking for changes to see what adjustments and other actions you need, you may find the following steps useful:

1. **Review your approved budget as you plan successive delivery stages.** As you develop the more detailed Stage Plan you may want to talk to the people who'll actually be doing the work to check that the initial financial estimates are okay. Think about the following things that often lead to changes in the budget:
 - The work is different from that originally envisaged. Perhaps a problem emerged that required a change in the technical solution, or a very simple solution was found for a problem that everyone thought was going to need a lot of work.

- A stated planning assumption hasn't worked out. For example, you may have based the plan on the assumption that you would be able to use organisational specialists for some work. After that plan was approved, a high-priority project was set up by the CEO, who instructed that the specialists were to work on that and their existing work was to be cancelled or covered by contractors. You're now going to have to hire some people in. That may change the total cost of your project and also the type of cost because the hire is capital, not revenue (see the earlier section 'Understanding capital and revenue').
- The work done so far in the project has consistently taken less effort or more effort than you expected. This may show that the estimates were unduly pessimistic or optimistic and so justify an adjustment for the rest of the project, based on this experience.
- People assigned to the project team are more or less experienced than originally anticipated so the activity durations are different.
- Actual prices for goods and services you'll purchase have increased, increased a lot or, very occasionally, decreased.
- Some physical resources required for the project are no longer available when you need them. For example, you were planning to borrow some equipment from another department, but it's now broken and beyond repair. That department decides it isn't going to replace it, and you now have to buy or hire your own.
- Your users want additional or different project results than those they originally discussed with you. This links in with the use of a change budget as well as revisions to the project budget. You can find out about change budgets in Chapter 15.

2. Get approval for any required adjustments to the budget or other parts of the approved plan before you begin the actual project work.

You may need to submit budget changes to the same people who approved the budget in the first place or to one or more managers who have oversight of the project (such as a Sponsor or Project Steering Group) and whose authority includes budget change. Often that authority to approve changes will be within specified limits, which is sensible because few projects run exactly to budget. The process of getting budget change approval will normally be part of the Stage Gate work at the end of each delivery stage. Chapter 2 has more on dividing the project into stages, with each stage ending in a Stage Gate.

3. Monitor project activities throughout the work and towards the end of each stage to see if significant budget revisions are necessary.

Sometimes problems and other issues that come up during the work have implications for the budget. For example, a team member may come up with an idea for doing something more simply and cheaply, or a problem may arise that will need money to resolve. This overlaps with the working of the change budget. If something is a change and money has been set aside for changes

within the project, making the change won't necessarily affect the overall budget. However, if a problem is significant or a change request goes beyond the capacity of the change budget, it may have more substantial implications including ones that definitely affect the overall budget. That impact may be to the point that it affects the Business Case and calls the whole viability of the project into question. Check out Chapter 15 for more on how to monitor project expenditures during the project.



TIP

If you take over someone else's project part way through, you won't have been involved in the initial planning or the development of the budget. In that case, be sure to review it very carefully and check that you agree with it, because you're now going to have to deliver to it. If you have questions or disagreements with the budget or any of the assumptions behind it, talk to your Project Steering Group about it, but they will probably ask you anyway.

Avoiding drowning people in detail

When thinking through the format of your budget, consider who'll be looking at the different parts of it. Typically, the managers who'll approve the project budget won't want to know how many pencil sharpeners you plan to buy in Stage 23 for the user training.



TIP

An easy approach for bigger budgets is to set them down in three sections:

- » **An overview:** The total project cost, costs of each project stage making up that total, any breakdown of the total such as revenue and capital costs and then perhaps a brief description of any major expenses. Given that the budget is likely to be seen by senior staff who like pictures, you might also show some graphics here, such as a pie chart to show how much project cost is equipment, how much is internal staff cost and how much is contractor cost.
- » **A detailed budget:** An itemised breakdown under main headings such as 'staff', 'room hire' and 'travelling costs', week-by-week or month-by-month. This lends itself well to a spreadsheet.
- » **The fine detail:** The rivet-counter's guide – or perhaps it should be the bean-counter's guide! This section can usually be set down in appendices showing all your calculations. It's unlikely that anyone will study this section from end to end, but some people may want to dip in to see how you arrived at a particular figure. This section is essential for you to keep track of project costs, but senior managers making a decision on the project won't want this detail, so you can present the budget to them without these detailed appendices. However, in a presentation you'd do well to have a copy with you, so if any detailed questions do come up, you can quickly refer to the calculations and be incredibly impressive by coming up with fast, accurate and confident answers.

- » Dividing your project into manageable pieces – the stages
- » Developing Stage Plans
- » Deciding on work assignments and making more detailed plans

Chapter 9

Planning at Different Times and Levels

A great temptation in project planning is to dive into the fine detail and start ‘counting rivets’ before you’re even sure what the project is really about. The approach in this book, though, is to work at different levels of planning detail at different times.

Here are a few reasons why it makes sense to get the ‘helicopter view’ before going into detail:

- » You may be heading in the wrong direction and be doing all sorts of detailed planning on the wrong stuff. In Chapter 2 you may already have seen the quotation from Stephen Covey’s *The 7 Habits of Highly Effective People* (Simon & Schuster, 1989), which is ‘Begin with the end in mind’. It makes sense to be clear on the high-level stuff before you get into the detail.
- » Things change, particularly in business projects. It doesn’t make a whole lot of sense to do the detailed planning a long way ahead. You can be sure that things will have changed by the time you get there and some, perhaps a lot, of your work will be wasted.
- » Until you’ve seen the bigger picture clearly, you’re not going to get the detail right, because you don’t properly understand what you’re dealing with. For a start, you won’t usually be absolutely clear on the scope of the project until the high-level Project Plan is agreed.

The chapters so far in this part cover the sorts of things you do in planning. This chapter brings the earlier chapters together to explain when you plan, at what level, and then how to integrate plans at those different levels of detail.

Putting the Main Structure in Place

Just about all approaches to project planning and control break the project down into phases or stages. This allows you to concentrate on one part of the project at a time, while still seeing the big picture. Stages also create powerful control points, because between each stage everyone can take stock and check that the project is okay before going on to the next stage. These control points are normally known as *Stage Gates*. You can find more on Stage Gates later in the chapter in the section ‘Holding a Stage Gate’.

Stages are useful because of the control points, but also because they allow managers to drip-feed staff resource and money into the project. Although all the project funds and staff resource are earmarked at the outset, the Sponsor or Project Steering Group (PSG) can specifically authorise the release of that resource one stage at a time, checking on each occasion that the project is still viable and on track.

Deciding on the stages

When thinking about the project’s stages keep in mind that there are two basic sorts of stage: management stages and technical stages. *Technical stages* relate to the nature of the project work, so you may have, for example, a design stage and a build stage. In terms of control, though, projects usually need management stages. A *management stage* is simply a block of work that the Sponsor or PSG is happy to finance and authorise in one go. A management stage could include two or more technical stages. But equally, if a particular technical stage is very long or expensive, the PSG may want it divided into two, so pick a product part way through as the break point; define the management stages by the products they will deliver.

If stages are being used for management control (so, management stages) then the decision on how many to have and where the stages should start and finish rests with the Sponsor or PSG. You can think of this in exactly the same way as ordinary business management. The Sponsor is effectively the boss here, so how much does the boss want to authorise at a time, and how often will they check up on the work being done to make sure everything is okay? Of course, that’s going to depend, among other things, on the management style adopted by the boss.

A particular boss may exercise quite a lot of control and be happier doing that. However, a different boss with a more laid-back management style might have supervised the same staff much less and checked up less frequently.



As Project Manager you can recommend what you think are a suitable number of management stages for the project and show where the boundaries should come, but the final decision lies with the Sponsor or PSG.

There are a number of factors to take into account about how many stages there should be in a project and where one stage should finish and the next one start – the position of the Stage Gate. Here are a few factors to get you thinking:

- » **Before a major investment:** If there is a point in the project where a considerable amount of money is to be spent, it makes sense to have a Stage Gate just before it. The project can be checked to make sure that it is still viable and on track, and then the next stage can be authorised and the spend can go ahead. That's better than spending a lot of money then having a Stage Gate that finds that the project is no longer viable and should be cancelled.
- » **Experience of the Project Manager:** Just like in general management, if the Project Manager is inexperienced, the boss may want to check up on things more often and authorise less at a time. On the same project but with a highly experienced Project Manager, the PSG may be happy with much longer stages and fewer Stage Gates.
- » **Finance:** Stages are different lengths, but a PSG may put a cash limit on them. So, the whole project will cost £12 million, but no one stage is ever to be more than £2 million. The PSG will never specifically authorise more than £2 million worth of work at a time.
- » **Risk:** If the project is high risk, a PSG will tend to want shorter stages so that Stage Gate checks are more numerous and less is being authorised at a time. If the project is lower risk, the PSG may be happy to authorise much more at a time and have much longer stages.
- » **Sensible blocks of work:** Sometimes you can almost see the stage boundaries on a plan. The groupings of products and good control points are simply obvious, and it's hard to explain it better than that.
- » **Time:** In the same way as for money, the PSG may put a limit on the maximum length of a stage. In a two-year project, the maximum stage length could be, say, four months. If there is a block of work that will take six months, then it will need to be broken into two stages with a Stage Gate part-way through that work.

For exactly the same project, a different choice of people on a PSG or a different choice of Sponsor may result in very different decisions on the number of management stages.



REMEMBER

Management stages are usually different lengths. It would be very unusual to have even, time-based management stages through the project.

Some people, including well-paid consultants, get very confused about management and technical stages. If you're talking to a consultant who says 'Oh yes, in this type of project you should always have four management stages' you know immediately that they don't understand management stages, despite their air of calm confidence and large bill at the end of each month. You can't ever say to a departmental manager, 'Well, if you have staff in your department doing accommodation work, you should always check up on them five times a year; never more and never less.'

To make this really clear, have a look at Figure 9-1. For the same project you can see that two different PSGs might choose different patterns of supervision, with the first wanting more stages and control points than the more laid-back PSG in the second option. Perhaps the second PSG is too laid-back, though, and it won't be exercising enough control.

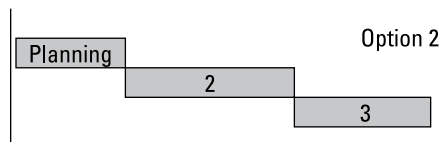
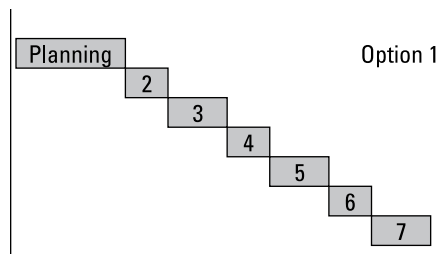


FIGURE 9-1:
Two options for
stages of the
same project.

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Holding a Stage Gate

Before going on to planning levels, it's worth saying just a bit more about the Stage Gate. The PSG, or just Sponsor in a small project, holds the Stage Gate

meeting. The name is great because it gives the right concept of a barrier, but one that you can open to allow you through into the next section. The Stage Gate is a look back, a look at where you are now and then a look forward:

» **Looking back:** You look back to check how things went on the stage just finishing. Are there any warning signs that indicate future problems? How much change has there been compared with what was expected? Was the spending on track? What problems came up?

» **Looking at where the project is now:** You want to make sure that the project is still viable and on target to deliver the benefits expected of it. You also check that the risk is still acceptable.

For example, suppose that the projection of benefits has fallen, and where it was expected that the project would deliver £1 million of savings a year, it's now projected to save only £250,000 a year. Suppose also that the risk has gone through the roof with all the risk factors increasing and a number of new severe risks emerging. The PSG or Sponsor may now decide it isn't worth that level of risk exposure to deliver what is now only 25 per cent of the original benefits, and rather than authorise the next stage, they order that project be shut down.

» **Looking ahead:** You look at the stage ahead and, in particular, the stage level plan. Is that plan workable and achievable? Are the controls adequate? Is the staff resource confirmed to be in place?

If the look back, look at the present position and look ahead are all okay, the PSG gives the green light and the Project Manager can start the next stage.

Working with Planning Levels

It's a common myth that you do planning once only, and at the start of the project. With stages, plans are being prepared right the way through, one as you approach each Stage Gate. In any case, re-planning is needed throughout the project as things change. As made clear throughout this book, no project ever goes exactly to plan, unless yours is going to be the first in history – in which case, prepare to be very famous.



TECHNICAL
STUFF

You can plan at three different levels:

» **Project Plan:** Covers all the delivery stages of the project. In other words, the period from the end of the planning stage until the end of the project.

- » **Stage Plans:** One for each of the delivery stages. You usually prepare a Stage Plan at the end of the previous stage, just before the new stage commences. If you're in a small project with only one delivery stage, the Project Plan will also be the Stage Plan.
- » **Delivery Plan or Team Plan:** The Delivery Plan or Team Plan covers a single work assignment or *Work Package* to build a single product or sometimes a small group of products where it makes sense to construct them together. The Team Leader usually produces a Delivery Plan if they judge that the Stage Plan won't offer sufficient detail to control that part of the development. Within a project, some Work Packages may need a Delivery Plan, while for other, simpler, Work Packages the level of detail in the Stage Plan is sufficient to exercise control over the build.

Figure 9-2 shows how the plans fit into the project at the three levels of detail.

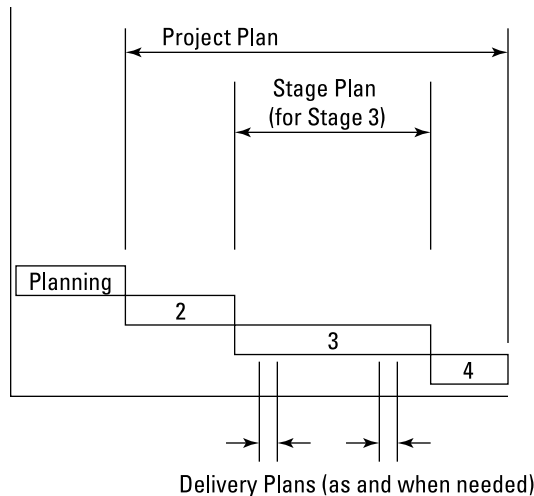


FIGURE 9-2:
How plans fit
the project.

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Drawing up new plans

Stage and Delivery Plans are both drawn up from the level above. Look at Figure 9-3 to see the plans at the three levels. You develop a Stage Plan from the relevant section of the Project Plan, and a Team Leader develops a Delivery Plan (if needed) for a Work Package from the relevant section of the Stage Plan.

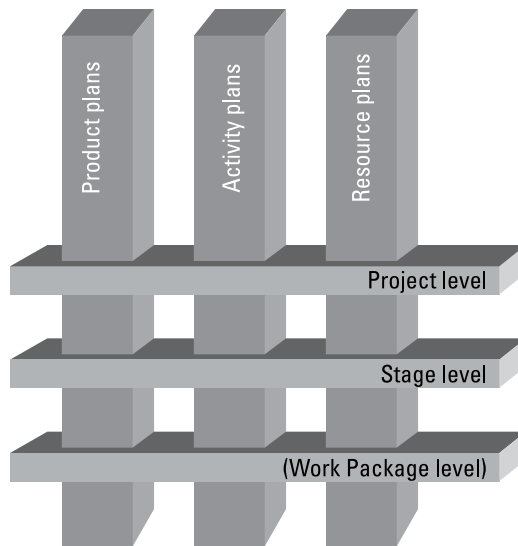


FIGURE 9-3:
Plan types
and levels.

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Developing a Stage Plan

Developing a Stage Plan from a Project Plan is remarkably easy in overall concept, but quite a lot of hard work when it comes to the practicality. The Project Plan shows at a high level what products are being produced in each of the delivery stages.

When you're approaching the Stage Gate for a stage, it's time to start thinking about the Stage Plan for the following stage and identify the project-level products shown for that stage. How many products that is depends on the size of your project and the size of the stages.

You then break down the higher-level products into more detail, normally using a Work Breakdown Structure, until you again have 15–30. For these you draw a Work Flow Diagram and then go on to show the greater detail of activities in your Activity Network and Gantt Chart. You can find full detail of all these techniques in Chapters 5 to 7.

Developing a Work Plan

Of the 15–30 stage-level products, a Work Package to be given to a Team Leader may comprise two or three of them or just a single product. If the products are complex and the stage doesn't give enough detail to control the work involved, the Team Leader can put the Work Package products at the top of a Work Breakdown Structure, break them down to 15–30 sub-products, draw a Work Flow Diagram and then do activity planning (see Chapter 6). It's exactly the same planning sequence all over again, but this time at the lower level of detail.

Planning for resource and budget

In exactly the same way as the product and activity plans show more detail at stage and then Work Package levels, you now go into more detail in your resource planning, including for financial resource. Figure 9-3 shows this graphically.

Figure 9-4 summarises what plans you'll be producing during the life of your project and when.

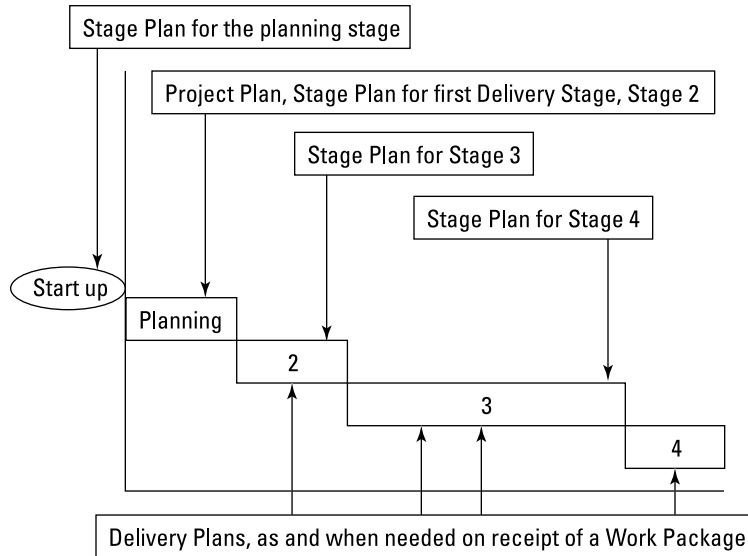


FIGURE 9-4:
Planning points
in a project.

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Keeping higher level plans up to date

When lower-level plans are produced, it is common to find some things that weren't seen on the higher-level ones and to come up with better information such as on activity durations. Each higher-level plan should be updated as necessary from what is discovered when doing the lower-level planning.

Planning at more than one level at once

When stage planning, it sometimes makes sense to have a planning workshop with the Team Leaders and Project Manager, and to do the Stage and Delivery Plans at the same time, when you know that all, or most, Work Packages are going

to need a detailed plan. The Team Leaders will produce their Delivery Plans and these can be used as a base for the Stage Plan at a higher level. That way everyone is sure at the start that everything is consistent. The workshop approach is particularly useful where you have all the Team Leaders available at the time that the Stage Plan is prepared.



REMEMBER

As in all areas of project management, be flexible and do what's best for the project. The important thing is always doing what's best to get the job done.

The Duke of Wellington attributed his success against Napoleon Bonaparte partly to flexibility. He is reported to have said that Napoleon's battle plans were made of finely crafted harness, beautiful to look at, but fixed. Napoleon thought through and planned battles very carefully in advance. If the battle went the way he had envisaged, things generally went well for him, but if not he was in trouble. Wellington described his battle plans as being made of rope. Not beautiful to look at, but if something snapped he just tied a knot and carried on.

- » Coming to terms with risk and risk management
- » Taking a look at risk analysis
- » Deciding how to handle risks and taking action
- » Drafting a risk management plan
- » Using tools to help with risk management techniques

Chapter 10

Dealing with Risk and Uncertainty

It's sad to hear about good projects that have failed – but it happens. It's even sadder when you find out a bit more and see that a project was killed off by a problem that the Project Manager could easily have foreseen, controlled or even prevented. Don't let your project be unnecessarily damaged or even destroyed by something that with a bit of effort – and sometimes not that much effort – you can get a handle on. This is the realm of risk management. The good news is that the basics aren't that difficult; in fact, you do risk management nearly all the time just to get through the day.



KEY TO
SUCCESS

Always – *always* – risk manage your projects. As has rightly been said, the right question is not 'Should I do risk management?' but rather 'How much risk management should I do?'.

All projects need risk management, even the very small ones. However, some projects are clearly higher risk than others and justify more effort. Often the larger, more complex and longer your project is, the more risk management you need, but that doesn't let small projects off the hook. The highest-commercial-risk project I have ever encountered was also one of the smallest: a six-week

project with just two staff in a finance company in the City of London. If that project had failed, it would have seriously damaged the company's reputation in the City and so threatened its whole business.

This chapter discusses risk when you're deciding whether you'll undertake your project and are simply evaluating the main risks, when you're developing your Project Plan, and while you're performing your project's work. It will help you to identify and assess the impact of project risks, and it explores strategies for minimising their consequences. The chapter also gives you some guidance for preparing a Risk Plan, and outlines a few risk techniques.

Understanding Risks and Risk Management

Risk is the possibility that you may not achieve some or all of your objectives because something unexpected occurs or something planned doesn't occur. All projects have some degree of risk because predicting the future with certainty is impossible. However, project risk is generally greater:

- » The longer your project lasts
- » The more unusual and groundbreaking the project is
- » The less experience you, your organisation or your team members have with the type of project
- » The more vulnerable the project is to things happening outside (such as in the wider business or due to change of government policy, change in the marketplace, activity of competitors or dependency on other projects)
- » The newer your project's technology is

The current professional view of risk in projects is that it's about uncertainty, and that individual risks can be either positive or negative:

- » *Negative risks*, also referred to as *downside risks* or *threats*, potentially have a detrimental effect on one or more of the project objectives, such as causing you to miss a deadline.
- » *Positive risks*, also referred to as *upside risk* or *opportunities*, potentially have a beneficial effect on project objectives, such as allowing you to complete a task with fewer staff than you originally planned or increasing business benefits.

Seeing why you need risk management

Some risks in a project can be positive, but nearly always they're mostly negative or all negative: things that can go wrong. That's in line with dictionary definitions of risk, of which one is: 'The adverse consequences of future events.'

It's a no-brainer that wherever you can, you want to try to stop things going wrong and thereby increase the chances of success. The difference between project risk management and most of the risk management you do as part of daily life, like when crossing a road, is that you think out project risk management up front and handle it in a methodical way. Don't worry about a methodical approach here, and please don't confuse method with bureaucracy. It's just that you need to think about the handling of the risk, consider all the possibilities for dealing with it, plan and carry out actions, and then check that the actions have indeed been carried out. It may well be that the chosen action for a particular risk is to not do anything about it, but even that's a considered decision that you should normally record.

On low-risk projects, the answer may be that you don't do very much risk management at all, but you should always do some. For some projects, that may just mean gathering one or two people together for 20 minutes around a flip chart to look at what could go wrong with the project and how that might be controlled.



WARNING

Watch out for small projects! You still need to risk manage them. In some respects, small projects are inherently high risk. Take staffing, for example. If someone leaves your project and you have 200 people, the impact is about 0.5 per cent (it may be more or less depending on how important that person's job is). If there's just you and one other person on a very small project and the other person leaves, the impact is magnified: it's 50 per cent.

Managing, not necessarily avoiding, risk

It's important to take on board the exact wording of the subject area of this chapter, which is *risk management*. Managing risk doesn't necessarily mean avoiding it. Clearly, a positive risk (an upside risk) is something that you want to happen, and your management action includes making it more likely. However, even negative risk may be a good option in the project.

A negative risk may be very high but worth taking, not for the buzz but for the business advantage. So, running the project very quickly and missing out some parts that are normally seen as essential could lead to more mistakes and higher costs. However, it's worth taking the risk in order to get to market faster and beat a competitor that you know is developing a similar new product.



Risk management, then, doesn't mean risk avoidance. In fact, if you have good risk management in place, you can afford to take more risks in the project, because you're exercising a degree of control. If you have no risk management, you can't afford to take many risks at all, because you have no control.

Keeping people informed

Throughout the project, and whatever part of the risk cycle you're in (see the later section 'Working Through the Risk Cycle'), you need to keep people informed about risks involved with your project. You'll probably need to adjust your Communications Plan (see Chapter 16 for more on this plan), if you're using one, as a reminder. As you consider who you need to keep up to speed with risk on your project, think about:

- » **Corporate management**, including organisational risk systems or your organisation's risk manager, if you have one.
- » **Other projects** inside and outside your own organisation that need to know because they may be affected by the risk happening on your project or because a newly discovered risk may also need recording and managing on those projects.
- » **Programme management** if your project is one of a group of projects in a programme.
- » **Sponsor** or Project Steering Group (PSG) members who need to know about new risks and changes in status to existing risks because they're authorising the risk management actions, including any finance needed for those actions.
- » **Statutory bodies** that need to know of a problem, when reporting an incident may be mandatory.
- » **Team Leaders and team members**, so they know what to look for as they do their work, and can report relevant things that affect the risks.

People often share information about project risks ineffectually or not at all. As a result, their projects suffer unnecessary problems and setbacks that may have been avoided with proper communication.

You may be reluctant to talk too much about risk, because it looks like you're identifying excuses for failure rather than ways to succeed. Some organisations have a strange reaction to risk and think it's all very negative. 'We're a can-do company' may be a bit of management-speak imprinted on your brain from frequent repetition, and imprinted all the more deeply if your manager is about to

start work on your annual report. Risk management isn't negative, though: it's positive. It's giving the project the very best chance of success by taking control of things that may cause problems (threats) and trying to make sure of uncertain things that are good (opportunities). It's worth some effort to get people to understand that perspective.

Communicate about project risks from the beginning and regularly. In particular, share information at the following points in your project (see Chapter 2 for more about these project life-cycle stages):

- » **Starting the project:** To support the process of deciding whether or not to run the project.
- » **Project planning:** To guide the development of all aspects of your Project Plan.
- » **Delivery stages:**
 - To allow team members to discuss potential risks and to encourage them to look for and report new risks and changes to existing ones.
 - To deal with any risks discovered during the delivery stages.
 - To reassess risks in the light of changing circumstances and if necessary modify parts of the current approved Project Plan.



TIP

You can improve your risk-related communications with your project teams and stakeholders by:

- » Involving them in identifying risks and suggesting ways of controlling them.
- » Telling people about risks you have already identified and what control actions you are planning.
- » Encouraging people to think and talk about risks, always with an eye towards minimising the negative effects of those risks.
- » Explaining the risk reporting mechanisms in the project clearly (as set down in the Risk Plan) and emphasising that it is not only valuable but essential that everyone on the project stays vigilant about risks.
- » Recording risk information and making it readily available so others on the project can see it to keep up to date with the risk position.

You can discuss this information at regularly scheduled team meetings and scheduled progress reports. (See Chapter 16 for more on sharing project information.)

Keeping risk in focus throughout the project

Risk management is ongoing, not just something you do at the start of the project. Here's a summary of the main stages in a project and what risk work you do at each of them (see Chapter 2 for a detailed discussion of these stages):

- » **Starting the project:** Here you look at any large and obvious risks to help decide whether it's even worth taking the project idea on to planning. If the benefits of the proposed project are quite low, but the risk is huge, it's probably not worth going any further.
- » **The planning stage:** This stage is where you do the main risk analysis and planning work. If you didn't open a Risk Log (see later in this chapter) when you were doing the start-up, you'll open it now to record the risks and the action you intend to take to control them.
- » **The delivery stages:** In the delivery stages, you carry out planned risk actions and monitor known risks, but you also deal with any new risks that you find or that others report to you in the project.
- » **Closing the project:** At the end of the project, you pass on any ongoing risk management actions that affect products in their working life, such as actions relating to dangerous machinery. You also evaluate how the risk management went on the project in order to learn and pass on any lessons for future projects.

Working Through the Risk Cycle

Different approaches to risk management offer different cycles, but the example in Figure 10-1 is based on one from my Project Techniques Toolbox (which I produced in 2009 but is no longer available) and is a cycle that I developed. It's unusual, and practical, because it has an inner loop to continue monitoring a risk if the control actions are proving effective. Some risk cycles drive you round to decide and re-plan risk actions even where the existing actions are effective and you don't need to. Even worse, some say that you keep re-identifying a risk because identification is included in the main body of the cycle. Steer clear of those examples because they are both confusing and unrealistic.

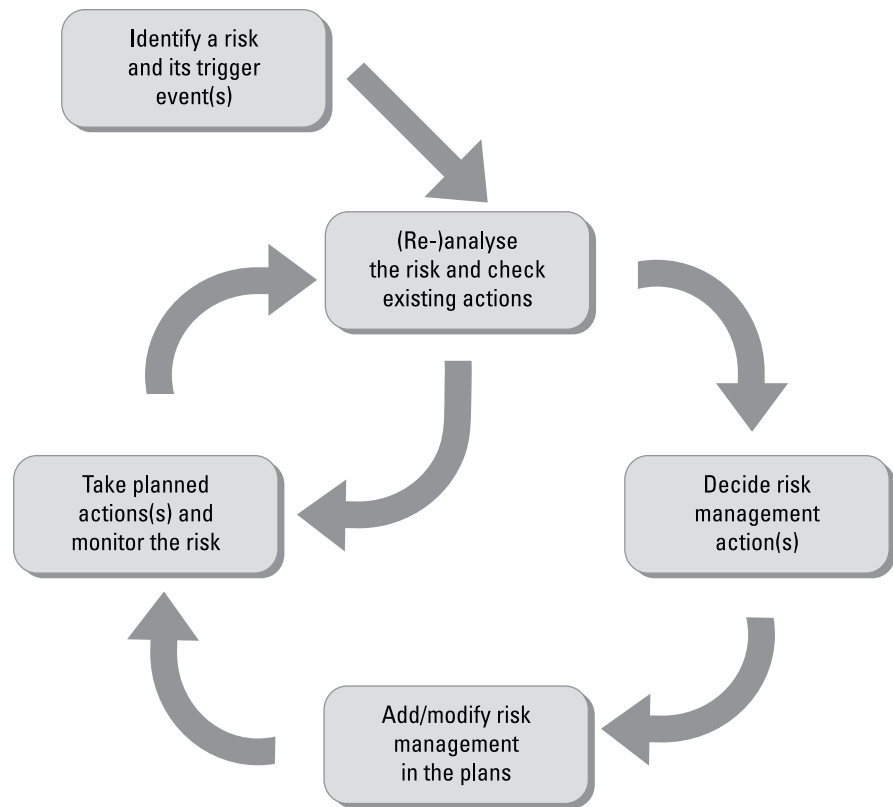


FIGURE 10-1:
A risk cycle
example from
the Project
Techniques
Toolbox.

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From the Project Techniques Toolbox; used with permission.

A good risk cycle, whether you go for the one in Figure 10-1 or a different one, is helpful because you can hold the picture in your head and it helps you deal with risks systematically. Going with the example in Figure 10-1, once you've identified a risk, you need to analyse it, then decide what action(s) you need to take. Then build the actions into your plans, and there may be more than one action needed to control the risk. After that you take any planned actions, either as a preventative measure or if the risks occur, and keep monitoring in case anything has changed. From time to time you should re-analyse the risk to see if everything is okay. If the status of the risk hasn't changed and the control actions are proving effective, then you can go back to taking actions and monitoring. If something has changed, you go round the whole cycle again to reconsider your actions and plan the changes.

The following sections look at each step in more detail.

Identifying a risk and its trigger event(s)

The first step in your risk assessment is to identify the specific risks that may affect your project. You should record these in a *Risk Log*, which is simply a set of forms (usually held as an electronic document), each one describing a risk. Don't think of having a Risk Log as bureaucratic, because you've got to be able to refer back to the information, and you can't do that if you don't record it. Also having it written down means that other people can see it and be on the lookout for risks happening.

The step name also includes looking for trigger events. Okay so the word 'trigger' is frowned on by risk experts, but it's in the cycle because it's a very descriptive word. Think about what might make a risk happen, and note the 's' on the word 'trigger' because it might be more than one thing.



REMEMBER

Although you only identify a risk once, so it isn't a repeatable part of the cycle, remember that in the project you check for new risks periodically. This may be at the end of each stage, when you're planning the next stage, or even, in a higher risk project, at regular timed intervals.

The good thing about risk management generally is that there are lots of techniques out there, so you will find plenty to help. You can also find an explanation of four techniques – in the 'Getting Some Help from Techniques' section at the end of this chapter. Two of those techniques, Ishikawa and the Risk Checklist, are great for risk identification.

For each risk, you need to note basic information about it but you need to be a bit balanced. If you're in a risk workshop setting, for example, and people are coming up with a lot of risks, if you stop to carefully record all of the detail about each risk, you will break the flow and possibly end up missing some of the risks. It's usually better to record just the basic information and then later come back and fill in the gaps as you think more about each risk.

Introducing some structure

You can just think of risks at random, but you may find it helpful to bring in some structure and think through the project in a more systematic way. For example, you may think about risks in terms of the type of impact, such as:

- » **Business risk:** Things coming from outside the project; for example, lower company profits this year or government cutbacks could lead to your project budget being reduced.
- » **Resource risk:** For example, if the work turns out to be more complicated than you anticipated, existing project finance and staff resource may not be adequate.

- » **Schedule risk:** For example, the risk that because staff are unfamiliar with the new technology, tasks may take longer than you anticipate.

As part of the information you are holding about each risk, you may want to include a risk category. Categories can be helpful in two ways:

- » They can help indicate how a risk should be handled and who should be involved in managing it. For example, business risks may all need to be 'owned' by the project Sponsor who is primarily responsible for monitoring them.
- » You can give some structure to your risk identification, by taking each category heading in turn and asking what risks may affect the project in that area.

Different organisations and project and risk approaches use different sets of risk categories, and you can look online for examples.

Looking around for help

Don't think you always have to do everything yourself. With risk in particular, it really helps to get some different viewpoints, because different people will spot risks that you don't.



TIP

Here are a few ideas on finding help to get you started:

- » **Review past records of any similar projects.** If a risk actually happened on a similar project in the past, you definitely want to be prepared for it this time.
- » **Talk to people with experience.** This might be technical experts or team members on your project who have worked in the area before. This is where holding a risk workshop can be very effective.
- » **Use a Risk Checklist.** You'll find more on this technique in the later section 'Risk Checklist', but basically it's a standard list of risks that you can look through. See whether any of the risks on the list could affect your project.

(Re)analyse the risk and check existing actions

The second step in the risk cycle is analysis, when you get to really understand a risk. The first time you use the cycle for a risk this will be the initial analysis and, obviously enough, there won't be any existing actions. When you come round the cycle again for an existing risk, you will be checking the risk again to see if there are any changes and if the existing actions are proving effective or not.

In risk analysis you need to find out:

- » How the risk is likely to behave
- » What impact or impacts the risk may have
- » The extent to which it is controllable and what actions are possible for control
- » Whether the risk is related to any other risks or triggers

Picking up on the last point in the bullet list, it's common in projects that people think about individual risks but fail to consider the possibility of relationships between them. For example, a single event may fire off several risks at once, or there can be a chain reaction when one risk happening has an impact that fires off another risk, and when that happens it fires off a third.

As part of your analysis, it's really helpful to assess the scale of the risk and when it can happen. In turn, that helps you think how much management of the risk you need to do, which is important because risk management will itself take time in the project and possibly cost money. The scales are normally in two dimensions – probability and impact – and you can use a Probability–Impact (P–I) Grid diagram to help (see Figure 10–2 for an example).

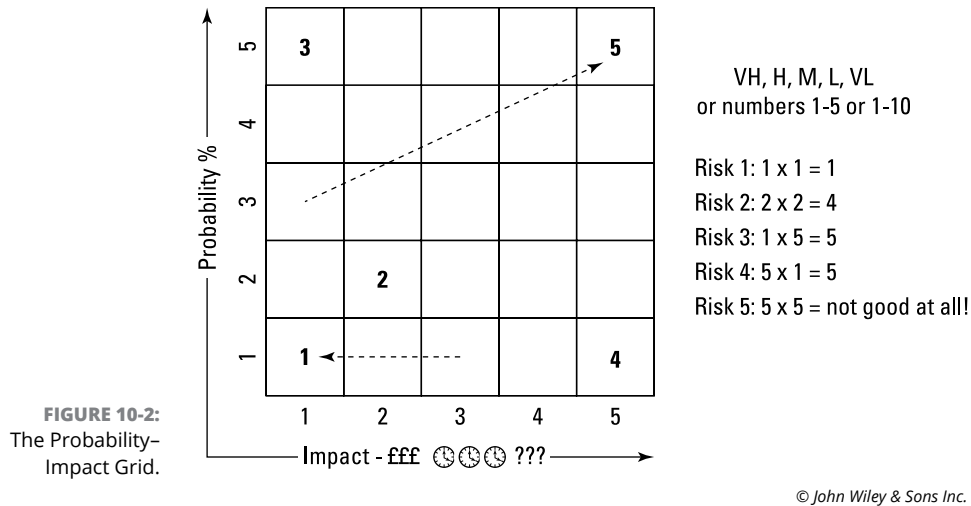
DIFFERENTIATING BETWEEN RISKS AND IMPACTS

When looking for risks, it's really easy to confuse risks and impacts. For example, a common entry in Risk Registers is: 'RISK 99 – Project will be delayed'. However, delay isn't a risk, it's an impact. What you need to ask is what could go wrong in the project that would result in the project being delayed. So, a major machinery breakdown in the factory during your project could lead to the impact of project delay, because the engineers on your team will be taken off their project work to deal with the breakdown, and will only come back when it's sorted out.

Equally, overspending isn't a risk. Overspending is an impact, and you need to identify any risks that would cause overspending.

Impacts can be useful as another means of structuring risk identification work. Using the Ishikawa (Fishbone) Diagram (see the later section on this), you can put the impact of 'Overspending' as the effect or impact, and then with the fishbones look at all the risks that could cause it. Using the diagrams, you can systematically work through a range of impacts.

The P-I Grid is valuable to see where individual risks are, but also to spot patterns. You might see, for example, that you have a lot of risks and they are mostly low probability but high impact, or that the risks are evenly scattered across the grid.



If you normally think about risk measures in terms of high, medium and low values, you may be surprised to see that on the P-I Grid there's a five-point scale. It's recommended that you use a scale of at least five such as *very high*, *high*, *medium*, *low* and *very low*. You might use numbers instead as shown in Figure 10-2, though some would argue against that. If you do use numbers you can multiply them to find an overall risk factor which can be a helpful guide, if used with care, and there's more on that later in this section. Either way, risk experts advise that you're just not thinking hard enough if you only use a three-point scale. On the other hand, don't go for a scale of more than ten, or you start to get into difficulties about whether the risk is a 678 or if it tips the balance and really justifies a 679 on your 1,000-point scale!

When you have the position of each risk worked out, you can use this to help determine what action you need to take. Generally, the more you go towards the top right of the grid, the more action you need to consider. However, this isn't a numbers game, so be careful – particularly in the top left and bottom right of the grid. In Figure 10-2, Risk 3 is very low impact but very high probability. Because it's very high probability, you need to take action, even though its overall score, multiplying the impact scale by the probability scale, is only 5 (1×5). Equally, Risk 4 probably justifies action. It's only got a severity rating of 5 (5×1) but while it's very low probability, its impact would be devastating. For example, if you work in

a large building, it will have smoke detectors, a fire alarm system, fire exit routes and fire hoses and extinguishers. With modern electrical equipment and a ban on people smoking, the probability of a fire is extremely low, but risk management action is justified because the impact is so high – life threatening – if a fire does break out.

The grid is also useful for regular risk reporting, and you can show any movement of a risk since the last reporting point with dotted lines. In Figure 10-2, you can see that Risks 1 and 5 have changed since the last reporting point, but the others still have the same evaluation of impact and probability.

Gauging probability

Probability can be expressed as a number between 0 and 1, with 0.0 signifying that a situation will never happen, and 1.0 signifying that it will always occur (though if you now decide it is a 1.0 then it's no longer a risk because it's now a certainty.) You can also express probability as a percentage, with 100 per cent meaning the situation will always occur



TIP

You don't have to use the P-I Grid for recording probability and impact. Instead you can simply list risks in a particular order to indicate the degree of action you need to take. For example you could list risks in probability categories. You might use *very high*, *high*, *medium*, *low* and *very low* again.

If you have objective data on the number of times a risk has occurred in similar situations in the past, you can use it to help determine the likelihood that the risk will occur again in the future. However, don't be surprised if you don't have such information, because most risk probability estimates just aren't like that. The lack of data makes the probability estimating difficult; it's been described as the Achilles' heel of risk management. If you don't have objective data available then you can use personal judgements to estimate the likelihood that particular risks will occur. One technique that can help is the Delphi technique, described at the end of Chapter 6 in the context of estimating activity durations. Try also to get the opinions of experts and people who've worked on similar projects in the past.

When using objective data, you can estimate the probability of a risk occurring by considering the number of times the risk actually occurred on similar projects. Suppose, for example, that you designed 20 computer-generated reports over the past year for new clients. Eight times, when you submitted your design for final approval, new clients wanted at least one change to include something that they hadn't previously realised would be useful. If you're planning to design a computer-generated report for another new client, you may conclude that the chance that you'll have to make a change in the design you submit is 40 per cent – $(8 \div 20) \times 100$.



Some computer-based risk-management tools give very precise results, but be careful because precision is different from accuracy. *Precision* refers to the detail of a number. *Accuracy* refers to how correct the number is. The computer may calculate the likelihood of a particular risk to be 67.23 per cent. However, that figure will have been determined from your answers to the questions posed by the software. If you just didn't know and entered wild guesses, don't expect the output to be accurate, even though it's very precise.

Estimating the impact

After you identify the likelihood that a particular risk will affect your project, go on to determine the impact if the risk does occur. That magnitude directly influences how you will deal with the risk. Determine the specific effect that each risk may have on your project. That could be in terms of running the project, such as causing a delay, or something like an impact on the Business Case and the justification of the whole project. So:

» **Consider the effect of a risk on the total project, not only a part of it.**

Taking one week longer than you planned to complete an activity may cause you to miss intermediate milestones (and cause the people waiting on the output of that activity to sit idle). However, the effect on the project is even greater if the delayed activity is on your project's critical path (see Chapter 6), which means the week-long delay on that one activity also causes a week-long delay for your entire project.

» **Consider the combined effect of related risks.** The likelihood that your schedule will slip is greater if three activities on the critical path have a significant risk of delay, rather than just one.

Being specific

Be specific when you describe risks and their consequences. For example, suppose a key piece of equipment you ordered for your project may arrive later than expected. You can describe that risk as *the delivery may be late*, but it would be better to say *the delivery may be delayed by two weeks*. Just stating that the delivery may be late doesn't give you enough information to assess the likely effect of that delay on the overall project. It also makes estimating the probability of that risk happening more difficult. Are you talking about a delay of one day? One month? Stating that the delivery may be delayed by two weeks allows you to determine more precisely the likely effect that the delay will have on the overall schedule and resources. It also allows you to decide how much you're willing to spend to avoid that delay.

AREAS OF IMPACT

When thinking about impact, think widely about all the areas that could be affected; don't just focus on time and cost, important though they are. Consider these areas (some of which interact), but add more of your own to a checklist for your own projects:

- Business Case and the level of business benefits
- Cost
- Corporate targets
- Other projects (inter-project dependencies)
- Reputation damage (often underestimated)
- Resource scheduling
- Time

Deciding on an impact scale

The scale for impact in particular is one that you or your organisation as a whole must decide, because it's relative to the organisation. For example, take an impact of a loss of £1 million. Is that a problem? Well, to a small business with just three employees, that isn't just 'very high' – it's a company killer and off the scale completely. However, I have run project training courses for a multinational company based in the UK that has an annual turnover measured in many billions of pounds. What's the impact of a £1 million loss to that company? An embarrassment and an irritation perhaps, but certainly not high up the scale in terms of the financial impact.



WARNING

Be careful when using impact calculations alongside risk budgeting. If you have a risk with a financial impact of £10,000 that is 25 per cent probable, you may be tempted to set £2,500 against it in a risk budget. However, if the risk occurs, the impact will be £10,000 not £2,500 and your budget will be inadequate. It's been pointed out that if the probability of rain is 50 per cent, you don't take half an umbrella with you when you go out. Now that's not to say that you shouldn't bear probability in mind when deciding the appropriate risk budget to cover all the risks in the project with a financial impact, it's just to warn you to keep your brain switched on and not get so focused on calculations that you lose touch with reality.

Considering proximity

A third useful measure for each risk, after probability and impact, is the *proximity*: how soon it can happen and how soon you will be hit by the impact. Proximity

information is, obviously enough, very useful in planning. You can classify proximity using three categories:

- » **Immediate:** Some risks always have a proximity of *now* and the impact will be immediate. They can happen at any time during the project with no notice at all. An easy example is with a key team member going sick. They may walk up to you in five minutes' time and say that they're feeling dreadful and need to go home, or that could happen in five weeks' time or in five months' time.
- » **Fixed date:** Some risks are pegged to a point in time. The new rocket can't fail to launch until it's time to launch it. The team can't find that a product is more complicated to build than they thought, and so will take longer, until they get to grips with the product as they start to build it. For this category, note that the proximity will get shorter and shorter as you approach the date when the risk can occur.
- » **Fixed period:** The impact of some risks will always be a fixed time ahead. Today the proximity is four weeks, but if the risk occurs in five months' time the proximity of the impact will be four weeks after that. Consider the simple example of someone resigning from your organisation and so leaving your project. If that person resigns today, they'll leave in four weeks' time, after they've worked their four-week notice period. If they resign in five months' time, they'll leave four weeks after that. You just hope that they don't have four weeks' holiday owing and a fixed period turns into now! You might even decide to check that out.

Deciding risk management action(s)

Recognising and evaluating risks that pose a threat to your project are the first steps towards controlling them. But you can't stop there. You also have to develop specific plans for reducing their potential negative effects on your project. In your analysis you looked at what options you have for dealing with each one, and now you select the option or set of options that are most suitable.

Handling all risks

As you look at the risks, be clear on the point that you're going to manage all of them, even if your choice of action for some may be to do nothing at all. That may sound more than a little strange until you think back to the risk cycle. As your risk management goes round the cycle, you monitor and re-analyse each risk to check for changes. It may be that a risk where you decided to take no action has now changed and now does justify action. So you're still managing a 'do nothing' risk because you will continue to monitor and analyse it.

Thinking wide

When considering what to do about each risk, it's very easy to bounce off at a superficial level, and Project Managers often come up with a single option: throw money at the risk. But often you can do a number of things to manage a risk, and some may not involve money at all, just some ingenuity. Allowing sufficient time for risk analysis and management is important, then, so that you don't just rush into the obvious management actions that may not be the cheapest or even the most effective. As you come to decide what action to take, you may pick just one of the options you've come up with or you may implement more than one action to get good control of the risk.



TIP

Record all the risk management options for each risk, albeit as concisely as possible, and include the reasons for choosing the actions that are being taken and the reasons for not selecting the others. That way, if circumstances change later on and it's necessary to review the decision, the information is still to hand. There may be some additional work to do if new options can be identified during that review, but if you haven't discarded the initial information it saves you repeating work that you've already done.

Deciding on actions

When making a decision on what action(s) to take, first consider the likelihood of a risk *and* its potential effect on your project. If the potential effect of a risk is great, and if the chances it will occur are high, you probably want to develop plans to manage that risk. If both the impact and the probability are low (bottom left of the P-I Grid; see Figure 10-2), you may decide not to take control action.



REMEMBER

When the potential impact is high but the likelihood is low, or vice versa (the top left and bottom right of the P-I Grid), you must consider the situation more carefully. Even where the *score* (impact $\times$ probability) is low, risk management action may nevertheless be fully justified.

Understanding action types

You can categorise options for handling risks in different ways, but here are five main alternatives:

- » **Avoidance:** Act to stop the risk happening. For example, team members may be delayed in getting to work because of a planned series of transport strikes – arrange for them to work at home on the strike days.
- » **Contingency:** This is allowing for the risk to happen, so that you can absorb the impact. You can think of contingency in three distinct areas:

- **Action contingency:** Have a plan B. If the risk is realised, take the pre-planned alternative action. If the flight to Edinburgh is cancelled because of volcanic dust from Iceland, I'll go by train.
 - **Cost contingency:** Have some extra money in a risk budget. If the supply from the cheaper source fails, the relevant part of the risk budget is released and the item can be purchased from a better stocked but more expensive supplier.
 - **Time contingency:** Have some contingency time in your plan to allow for a delivery being a bit late. There's more on time contingency in the next section.
- » **Mitigation:** To reduce the probability that a risk will occur or to minimise the impact if it does occur. Two examples of risk mitigation are:
- **Minimise the probability.** Use only experienced staff on the project and so reduce the chance of serious mistakes being made.
 - **Minimise the impact.** Having identified a spare engineer who can take over if someone leaves, now arrange for them, alongside their normal work, to attend all the project briefings and be copied in on project engineering documents. That way, if this person does have to step in, they will still have a learning curve as they take over but it's less steep than if they knew nothing about the project at all. They'll get up to speed faster, and the impact of the staff change will be reduced.
- » **Taking no action:** This is a conscious, and recorded, decision not to take action on the risk; it isn't neglect. If the risk does occur, everyone knew what the impact would be. You might use this option if taking actions is very expensive or time consuming, and the low impact and very low probability of the risk occurring (in the present assessment of it) doesn't justify such cost or work effort.
- » **Transfer:** Get someone else to take as much of the risk as possible. For example, take out insurance to cover the financial impact.

You can use the action types in combination as already hinted at in the example of the engineer in the previous bullet points. Another example is that you might choose to have some time contingency in the plan to deal with a delay, but also take out insurance (transfer) to cover the financial impact.

Positive risks, or opportunities, generally need the opposite action from negative risk. Instead of trying to reduce a risk, you need to take measures to increase the chances of the risk happening and improve the effects if it does. An exception is with taking no action. Even though a risk has a beneficial outcome, it may not be worth the extra effort trying to bring it about.



WARNING

The following risk approaches have proved less effective and so are not recommended, even though they are in widespread use – particularly by senior managers:

- » **The denial approach:** Refusing to accept that any ‘real’ risks are associated with the project work.
- » **The ostrich approach:** Ignoring all risks, pretending they don’t exist.
- » **The bridge crossing approach:** Not wasting valuable time on risk identification or planning all that control stuff. We’ll just cross the bridges when we come to them. Anyway, solving all those problems which you could have avoided will make you feel important and show the boss that you’re indispensable; provided you do manage to solve them of course.
- » **The optimistic approach:** Trust that the risks won’t materialise.

Looking at options for time contingency

You must have *time contingency* in your plan; it’s almost certain that something will take longer than you expected or you will encounter a delay with an external supply. This raises two questions. First, how much time contingency? Second, where should you put it in the plan?

On the ‘how much’ question, I can answer that easily for you: I don’t know! It depends very much on the nature of your project, including the degree of risk which in turn is affected by how much is in your control and how much isn’t. It also depends on whether you and your project teams have worked in the area before or if you are launching entirely into the unknown. Some people work to 10 per cent by default, but that may be too much or too little for your project.

The second question is where to put time contingency into the plan and you have three options. There are no rights and wrongs about the three, and you could use them in combination.

- » **Project-level contingency.** Here you plot all of the activities onto the Gantt Chart according to how long you think each will actually take, but then you add a block of project contingency at the end of the project. The construction industry tends to favour this approach. It is good in that it shows the expected activity durations accurately, but it is a problem if something slips because everything after that then also slips, including things such as bookings for specialists and equipment.

» **Activity contingency.** You estimate the activity will take four weeks, but you put, say, five weeks on the plan. This is good in that it allows you to immediately absorb any overrun. However not everything will overrun so it builds in unnecessary delay to later work. It also opens the door to two problems:

- **Parkinson's Law:** 'Work expands to fit the time available.' In other words, if you give (some people) five weeks to do a four-week task, they will take five weeks.
- **Student syndrome:** If a student is given five weeks to do an assignment, when do they start work? Yes, the night before the deadline! The problem with activity contingency is that team members who are not full time on the project will have other – possibly urgent – work to do. They may delay starting work on your activity for a week, knowing that it should only take four weeks. In other words, they burn the contingency off the front end. Then they do the work and the activity actually takes two days longer than they expected, but well within your contingency allowance. However, the activity is now five weeks and two days long.

» **Group contingency.** This is time contingency on a set of activities, though not necessarily a stage. Under normal circumstances, this is my personal favourite and I think of these blocks of contingency at intervals through the project as shock absorbers, allowing any overrun to be contained within a particular part of the project.



TIP

As with all aspects of planning, when it comes to contingency make it clear what you have done. Note in the plan why an activity is marked as five weeks long when the estimate is four. For blocks of contingency, I suggest naming them with square brackets on the activity diagrams, so [Contingency] as the 'activity' name. This follows the format recommended in Chapter 6 for waiting time (such as for newly recruited staff to arrive). Using square brackets makes it visually clear that these are not project activities as such, but that they do have a time duration.

Add/modify risk management in the plans

Having decided risk management actions after you've identified and analysed a risk, you need to build those actions into the Project Plan and Stage Plans (see Chapter 9) and treat them like any other project management work. Where something has changed on a risk that you already know about and for which actions are planned or are already being taken, you need to modify those actions, depending on the review of what's now needed.

Conceptually, this step is simple enough. But do be aware that putting in the risk actions may then affect the overall plan. You'll need to make allowances for risk activity when first drafting the plan out, but later in the project risk activity could

even lead to a significant update of the plan. In particular the risk management actions may:

- » **Increase costs:** Such as for team member time, as well as for financial contingency, for taking actions.
- » **Increase time:** Because of the work involved in managing the risks, but also to build time contingency into the plan.
- » **Have knock-on effects:** Clearly, if the project will take more time because of contingency allowances, for example, it could affect the schedule for delivery of products during the project, which may in turn affect other projects if they need those deliverables too because of an inter-project dependency.

In addition to the work on individual risk actions, there is also work to be put on the plan for the Project Manager (and perhaps others too) in order to regularly review risks and keep the risk documentation up to date. How much work is involved and how often depends partly on the criticality of the project and partly on the number of risks involved. In a very high-risk project, review will be more frequent than in a low-risk project.

Take planned action(s) and monitor the risk

The opening words of this chapter observed that it's sad when a project fails because something nasty happens that could easily have been identified up front and which could have been controlled or even prevented. Okay, but now for something even sadder. That's when risks were identified, actions planned, but then the project failed because those actions were never taken. Risks happened with nothing to stop or control them and killed the project.

This final step of the risk cycle is essential, obviously, and to be sure that it is done, it can be included in regular health checks. You normally do this checking in a project audit function (see Chapter 12). That check isn't merely on the Project Manager, though. If team members, or even the Sponsor, are supposed to be taking risk-related action, project audit will check that they are and sound the alarm bells if it's being overlooked.

Taking action on risk

Risk action may be continuous or it may be responsive if the risk actually happens. If the building catches fire, then someone is designated to call the fire brigade; that's a responsive action if the risk occurs. Other risks may need ongoing action, particularly but not solely actions to avoid or reduce risk. So every Friday you jump out of your seat in shock at midday, despite the reminder notice in the lift, because

the fire alarm system is being tested to reduce the risk of it not functioning in an emergency.

Monitoring risks

Risks should be monitored regularly and in two dimensions:

- » **For change:** The first dimension is to check whether things are still the same. Has the risk increased in probability? In the light of the latest information available, is the impact greater or less than expected? Has the timing of the risk changed? Any change means that the risk should be re-assessed and, if necessary, the control actions changed. That's where this step cycles around to the re-analysing risk step.
- » **For adequacy of the action(s):** Where actions are being taken, are they working? If not, the actions need to be re-considered, which in turn means that some re- analysis may be helpful because something may have been missed which led to the wrong actions being selected in the first place. Again, the cycle continues to re-analysing the risk.

Documenting Risk

Two key documents are involved with risk management, and in all but very small projects these are both necessary and important. Even a small project should have some means of risk recording, though. The two documents are a Risk Plan (part of the PMP – the Project Management Plan) and a Risk Log.

Risk Plan

A *Risk Plan* lays out the strategy for how risk will be managed in your project. Develop your Risk Plan in the planning stage of your project, refine it as necessary at the end of each stage when planning the next stage, and continually update it where needed during stages (see Chapter 2 for more on these stages). Include the following in your plan:

- » Communications and interfaces, such as with programme management or other projects that may be affected (and so will need to be informed).
- » How risk actions will be monitored and audited.

- » Reporting mechanisms, including how team members should report newly discovered risks and how they should say if they believe a risk is starting to happen.
- » Review points where risk will be re-assessed, such as at the end of each stage and at regular monthly intervals during each stage, unless it's getting near an end stage.
- » The scales to be used, such as the impact scale.
- » Your plan for keeping people informed about risks throughout the project.

Risk Log

You need a *Risk Log* or *Risk Register* in which to record risks, the action being taken on them and the responsibilities for managing each one.

The Risk Log holds the day-to-day control information for each risk that's been identified. You can adjust the contents to meet the exact needs of your project but, as always, try to keep things simple. At a minimum, you're likely to need the following information:

- » **ID:** Usually a number.
- » **Risk title:** A short name to identify the risk quickly.
- » **Status:** Whether the risk is increasing, decreasing, under review or dead.
- » **Description:** A full description covering the characteristics of the risk and how it is likely to behave, such as whether it may happen gradually or suddenly.
- » **Metrics:** Impact, probability and proximity information.
- » **Responsibilities:** Who's responsible for the risk, including taking any action on it.
- » **Notifier:** Who spotted the risk in the first place (that might be a good person to involve in the analysis of the risk) or who to consult if there are changes.
- » **Planned actions:** What actions will be taken to control the risk, or the fact that it has been decided not to take action.

It's useful if you also have a shortened version of the Risk Log which duplicates the key information so you get an overview of all the risks rather than having to go through all the individual full entries. A spreadsheet is ideal for this and you can then easily use the columns to sort the risks into different orders to get different views. For example, to see all the high severity ones, or all the ones in the 'business risk' category.



TIP

Make the Risk Log available so people can see it, and actively encourage project staff to keep an eye on it. If your teams and PSG are aware of the risks, they're more likely to report relevant things that they see happening. If they aren't aware of a risk, they may not even notice tell-tale signs that a risk is starting to occur. That availability includes being open with outside supplier staff on the project. Try not to hide risk from them. It's better to get non-disclosure agreements than to hide risk. Of course, some risk can't be shared, such as things that affect commercial or personal confidentiality, but most of what gets hidden from supplier staff in projects needn't be. Hiding things unnecessarily is itself a risk.

Getting Some Help from Techniques

The good thing about risk management is that there are lots of techniques to help. In this last section you'll find four basic ones to get you started.

Ishikawa (fishbone) diagram

The fishbone diagram is useful when you want to work through risk identification in a structured way. You can do this using one impact at a time, such as 'delay' or 'overspending'. Using your chosen risk categories as the primary fishbones, enter the risks as the secondary bones. Figure 10-3 gives an example with a partially completed diagram.

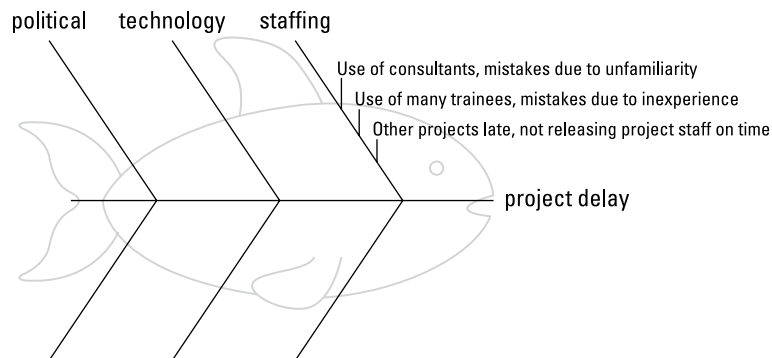


FIGURE 10-3:
The Ishikawa
(fishbone)
diagram.

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Work Flow Diagram

The Work Flow Diagram, explained in Chapter 5, shows all the project's products in sequence, including those coming into the project from outside. This gives a natural structure for part of the risk analysis. Simply go through the project products one at a time asking 'What could go wrong with producing this product or with this external supply?'

Risk Checklist

The Risk Checklist is simply a standard list of known risks grouped by category. You can buy commercial ones, but making your own for your organisation is even better. You identify all the risks you can by using other techniques, and then use the Risk Checklist to see whether you have missed anything.



TIP

Don't use the checklist first, or you're likely to get focused on it and so miss a new risk that's staring you in the face but isn't on the list.

Decision tree

A decision tree allows you to map options and cost them against the probability of them occurring. The result helps evaluate the best course of action. Figure 10-4 gives an example with two main choices of supplier. The actual cost for each then depends on whether that supplier delivers on time, early (in which case they get a bonus payment) or late (in which case there is a deduction from the cost for the inconvenience). The known history of the two suppliers allows estimation of the probability of each being early, on time or late.

Multiplying the base price plus the performance incentive for early delivery by the probability of early delivery gives the expected value of the price you pay if delivery is early. You can calculate the total expected prices for suppliers A and B by totalling the expected prices if each is early, on time and late.

This analysis suggests that you can expect to pay vendor A £45,000 and have a 70 per cent chance of delivery on time or early. You can expect to pay vendor B £56,000 and have a 70 per cent chance that you'll get delivery on time or early. So you can see that vendor A is the better choice.

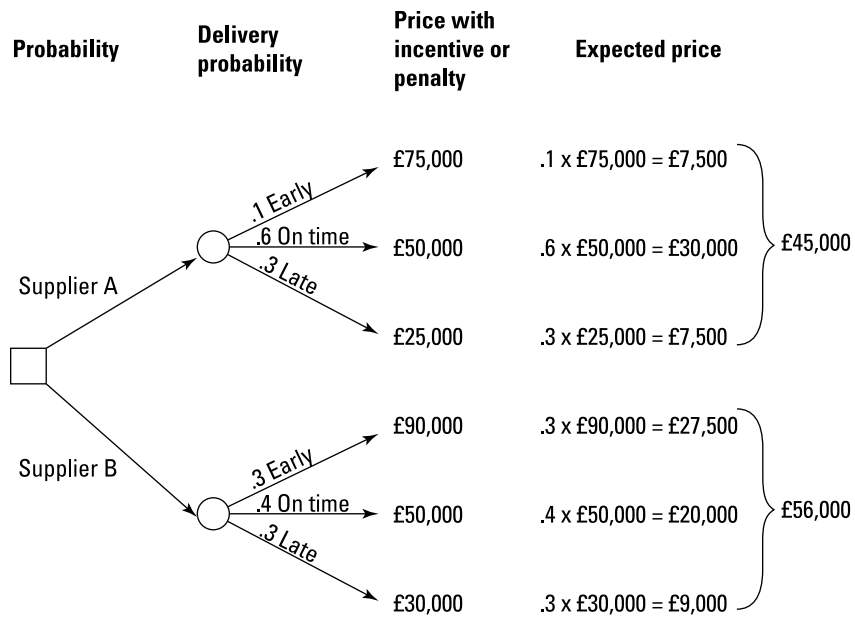


FIGURE 10-4:
The decision tree.

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- » Understanding the vital importance of quality
- » Setting the right level of quality
- » Planning quality
- » Delivering quality and avoiding quality game-playing

Chapter 11

Controlling Quality

If you're dipping into chapters rather than reading the book from cover to cover please don't think that this one sounds a bit unimportant after glancing at this first page and skip it! Quality is seriously important for your project whether it be large, small or something in between.

Quality is vulnerable. As discussed in Chapter 15, there are four control 'dogs' holding the project in tension, and one of these is quality. The problem is that the quality dog is a bit weaker than the other three. If the project comes under pressure, the quality dog is often the one that gets dragged out of place. Now, there is nothing wrong with knowingly and deliberately lowering the quality level if that really is the best management action. The problem comes when that lowering of quality is hidden and just happens; the dog gets dragged. There was simply no time for the full tests and checks so they were quietly missed out even where they were essential and should not have been. You need to protect quality in your project.



KEY TO
SUCCESS

Don't dismiss the importance of quality and be conscientious about controlling it. Quality can, and often does, make the difference between project success and failure. Controlling quality is one of the most important aspects of project management, though it might not seem so when you have a thousand and one other things on your mind.

When people talk about project success, or you look at the covers of some project management books, you may come across these words:

Good project management is about delivering on time and within budget.

Oh no it isn't! Whatever is the point of delivering a heap of unusable garbage 'on time and within budget'? Good project management is about delivering on time, within budget *and* to quality.

A LESSON FROM AN AIRPORT

Designing and building Terminal 5 at London's Heathrow Airport was a very long, very expensive and extremely complicated project. The airport is run by the British Airports Authority (BAA) and the terminal was designed to be the main hub for British Airways (BA) and BA would be the only airline using it. BAA was determined that the terminal would be completed on time and within budget. During the project an advertisement appeared on a large billboard at Heathrow saying that whilst another well-known project was now late and overspent, the Terminal 5 project was on time and within budget.

The opening of the terminal was high profile. Her Majesty Queen Elizabeth II opened the building and BAA took out full page advertising in several newspapers on the day, again saying that the terminal was completed on time and within budget. The only thing was that it didn't work. One huge problem was that the baggage conveyors quickly broke down. Passengers had to wait days to get their luggage. Again prior to the opening, advertising had promised that people would flow easily through the new terminal at Heathrow, and some ad graphics showed the terminal flooded like a large aquarium, with fish and other sealife gliding along. The experience of passengers at security was very far from the ad image of two seals gliding smoothly through a scanner.

The UK press described the terminal as 'A national disgrace' while one international journal, appropriately, labelled it 'An international disgrace'. In the UK Parliament the chair of the Transport Committee described the opening as '... an occasion of national embarrassment.' So, was the project a failure? Well, in my view, yes because the quality at the point of delivery was inadequate. The underlying concept and the design were good though and the terminal is now working properly and very successfully. The problem was the organisational focus on project time and cost. Had the terminal worked perfectly but opened three months late, that would almost certainly have been understood by everyone because the project was so huge and complex. A year or so later it would have been almost forgotten that it was a bit late. In the event, it took a long time and a lot of effort for Terminal 5 to live down the bad publicity.

Understanding the Effects of Getting Quality Wrong

On seeing the word ‘quality’ and reading about Terminal 5 in the nearby sidebar, you would be forgiven for thinking that this chapter is about to emphasise that high quality is absolutely essential throughout your project, and in a sense that is right but in another sense it isn’t. In short, high quality can be low quality. While you start to scratch your head at that, I’ll explain because it’s very important in the context of projects, success, costs and the Business Case.

Understanding the impact of poor quality

More than one project has had its deliverables abandoned by its users when those deliverables proved unsuitable or simply didn’t work.

Of course, delivering poor quality will affect your personal reputation as a Project Manager. It may go on to also affect the reputation of your department and even your organisation if the problems were in the public eye before they could be corrected. Reputation damage to your organisation can have an enormous impact, as mentioned in Chapter 10. That could be loss of sales, a negative public image or, in the case of a charity, loss of vital donation income. The impact doesn’t stop with reputation damage though. Where quality problems mean that project products must be re-worked, that incurs more time and cost; time and money that could and should have been spent on other things to benefit the organisation.

Poor quality sometimes proves very costly. Have you, like me, ever wanted to buy something and your eye went straight to the most expensive but seriously good brand? You argued with yourself that the cheaper one at just half the price would be fine and you really couldn’t justify the extra expense of the really nice one. With a deep sigh you put in your order for the cheaper one. The item arrived. It really wasn’t pleasant to use and just felt, well, cheap. Then within three weeks it broke and you found, in the small print, that you couldn’t send it back because you had used it. You ended up binning the cheap item and buying the more expensive brand that you had wanted in the first place, only now you had spent fifty per cent more than you needed to.

This issue of expensive poor quality can dramatically affect an organisation’s projects. Senior managers may be heard to complain ‘Well the project cost was fine, but the ongoing maintenance costs are considerably more than we were expecting.’ That is a sign that the quality in the project was insufficient and now the organisation is paying the price.

It is my view that on anything more than small projects, project spending codes should not be closed at the end of a project but instead kept open for a year or so. Any corrective work to project deliverables should be charged to that code, not to a maintenance budget. In other words, the organisation should discriminate between corrective maintenance and enhancement maintenance (improvements and updates).



Where undetected or known faults are passed into the working life of products they are sometimes known as *quality time bombs*. The problem is in there, hidden away but ticking. Sooner or later, it is likely to go off with a bang.

Avoiding the cost of unnecessarily high quality

Surely then, you must aim for extremely high quality in every project deliverable – right? No, absolutely wrong. Excessive quality is a waste of time and effort and will unnecessarily push up the project budget and extend the timescale.

When specifying quality you must guard against excessive quality as much as against inadequate quality, and it is almost inevitable to use an example of a car. If you are looking to buy a car, can you justify a Rolls Royce? You might like to have a Rolls, you might always have wanted a Rolls, but the expense is considerable and so are the running costs. Unless you are a particularly successful Project Manager commanding a huge salary then you have to set your sights a bit lower when it comes to vehicle purchase. You can get an excellent car of a different make that will take you from A to B reliably and comfortably but without the initial cost and then overheads of a Rolls.



In a project, excessive quality is generally not a good thing and so in reality is, normally, poor quality. The objective is to deliver the right level of quality and that is what this chapter is about. Even here though, notice the words ‘generally’ and ‘normally’ in the first sentence in this paragraph. On occasion, albeit rarely, excessive quality is chosen as a strategy.

Here’s an example to drive home this concept. When motorways were originally being built in the UK many years ago, the designers looked carefully at the projections for traffic growth in the years ahead. However, they didn’t build the motorway systems to cope with those projected volumes but instead they massively over-engineered them; that would be cheaper and less disruptive than having to reinforce the network later if traffic volumes turned out to be much larger. Today, with volumes very considerably greater than the projections, there is cause to be grateful to those engineers.

Defining Quality

Two definitions of quality are important in project management and you should find them helpful in being clear about what you are trying to achieve. The first definition is a dictionary definition from *The Concise Oxford English Dictionary* 12th Edition (Oxford University Press, 2011):

The degree of excellence of a thing.

This definition, in the context of projects, can be rephrased as ‘How good do you want it to be?’ A slightly different but rather better question is ‘How good do you *need* it to be?’ The second question is important in the context of the user view and the business view which is covered in Chapters 12 and 18. The issue here is that the user may *want* something to be very good – all-singing, all-dancing – but the question is whether or not that is justified from the business perspective and if it really *needs* to be that good.

The second definition is from the quality standard published by the International Standards Organization (ISO):

The . . . ability to satisfy stated or implied needs.

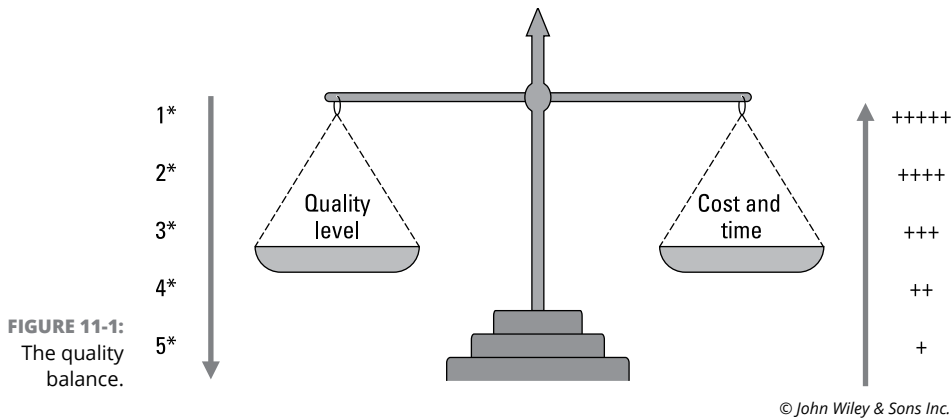
This ISO definition can be summed up as ‘Is it fit for purpose?’ In other words, does it do the job and does it do it reliably?

Striking the Quality Balance

As you will probably have concluded from reading this chapter so far, there is a balance to be struck. On the one hand you don’t want the project failing because of poor quality, but neither do you want to specify unnecessarily high quality that is expensive and time consuming without gain to the project or the final deliverable. You and your teams will have enough on your plates already without striving to achieve the highest level of quality when that is neither needed nor justified.

Balancing quality against project effort (and more)

The balance is with quality level on one side and time and cost on the other, as illustrated at Figure 11-1.



When thinking about the time and cost of higher levels of quality, it's easy to underestimate and think only of the development. However, as you mount the 'star scale' of quality (1* to 5*) there are higher overheads for testing and, after the project, almost certainly for maintenance of the project's products. So, for testing do you just need to test once, or test and then re-test? Can the same person do the testing and re-testing, or should the re-testing be done by a different person? If a different person, that has implications for staff resourcing. Will some of the testing need to be done by an authority outside your own organisation as well as people within? Perhaps you will have to submit some project products to an independent specialist who can confirm compliance with the required standard.

In the working life of the products that your project is delivering, there will almost certainly be higher maintenance costs for the higher levels of quality. For example, any upgrades to the products will need to go through the same level of testing rigour as the original versions.

Thinking through what quality level you need

Quality costs can escalate very rapidly. You might like to think about projects you have seen in your own organisation, and it is highly doubtful if any of them are 5*, top-quality projects. If you know something about those projects, think about how much time was devoted solely to quality activity. Quality activity in this context doesn't mean 'We always do our work well here' but rather work involved in specifying quality, designing tests, conducting tests, checking that tests have been done and rework with re-testing where errors have been found. If you think it's probably around 10 per cent of overall project effort then that is fairly normal. If you think it is about 30 per cent then that is very high but probably still not 5*.

However, where a project is run that is *safety of life* – lives are literally at stake – such as with air traffic control or nuclear power station safety systems, the quality effort can rise to as much as 90 per cent of project effort. It involves testing, re-testing, testing the tests, testing the tests of the tests, building a test harness to test a part of the system against, testing the test harness. You get the picture! For most organisations, that level of cost and time is prohibitive and they don't regard even their very best projects as justifying that much quality related effort.



REMEMBER

You must set down what quality level is required at the outset and then be committed to maintaining that level right through the project. You can't be slapdash at the beginning and hope that you will have some time to spare later in the project and add some extra quality then. It is widely and wisely said:

Quality must be built in, not bolted on.

So what level of quality do you need? Here are a few questions to think through, but for your own organisation you may identify more that are relevant:

- » **Business impact:** If a product malfunctions, will it cause disruption to the day-to-day work of the organisation, such as affecting customer orders or the functioning of a hospital?
- » **Finance:** Do any products involve finance, such as customers' money in a banking project?
- » **Knock-ons:** Will a lower and cheaper level of quality in your project's products actually cause avoidable expense and time delays in other parts of the organisation?
- » **Legal:** Do any products involve legal compliance, such as with building?
- » **Safety:** Will at least some of the project's products involve safety, such as dangerous machinery?
- » **The competition:** What are competitors producing? Where you're dealing with a saleable product, it is no good developing a product that will be about the same price but inferior quality to those already in the marketplace or known to be under development.
- » **User requirements:** What do the customers (users) of the project actually want and what are they willing to pay for?
- » **Visibility:** Will the project's products be seen by the general public or customers?

Identifying when quality levels are mandatory

In some cases the quality side of the balance is fixed. Interestingly though, the balance still works. If you are indeed building something like an air traffic control system, then the project truly is 5* and the scale is tipped heavily to the quality side. In consequence the time and cost side of the scale is up at its maximum height. So, if the organisation genuinely needs 5* for a project, then it must accept that the project will take longer and cost more. In other cases, some elements of the project have to be very high quality; in these cases the quality level is a no-brainer because there is no choice:

- » **Business reputation:** If the project fails on quality, the organisation's reputation may suffer to the point that it kills the business.
- » **Environment:** Where the project may have an impact on the environment and pollution is completely unacceptable.
- » **Legal:** Where compliance with one or more specific standards is a legal requirement.
- » **Safety of life:** If human life (or at least safety) is at stake.

Here's an example. Antarctica has many underground lakes trapped between the rock and the thick surface ice and those lakes have been there for millions of years. Scientists have to be extremely careful not to introduce any contamination into the water. For a recent extraction of water for analysis, the scientists used a thermal drill and stopped short of the surface of the water. The pressure from below forced water up into the bore hole and they waited for it to freeze before taking samples for analysis. After a problem some years earlier where water flooded up into the bore hole and mixed with lubricating and anti-freeze chemicals from a more normal drilling process, they now go to great lengths to avoid any repetition of that. Quality was everything in the more recent project where great effort was fully justified because of the environmental factors with the pristine, pre-industrial age water below the surface.

Spotting Quality Game-Playing and Working to Prevent It

Unfortunately, people 'play games' with quality and that is at organisational level as well as within projects. The bad news, predictably, is that such games damage quality in projects.

The quality level game and a guilty conscience

The first game relates to conscience. Everyone knows that the last project delivered was a disaster. The project finished but the products were riddled with errors that the teams either didn't see or didn't have time to put right before the fixed deadline (Terminal 5 in the example near the start of this chapter perhaps), or both. Those errors were seen by customers who were not well pleased when newly delivered stuff started malfunctioning. And the project before that wasn't much better, and the one before that – well, we don't talk about the one before that!

The first game to watch out for then is to do with specifying the quality level. For the quality session on project management training courses I came up with the Graph of Good Intentions, shown here at Figure 11-2. Up the side of the graph is the 'star scale' of quality, 1* to 5*. Along the bottom is the project timescale.

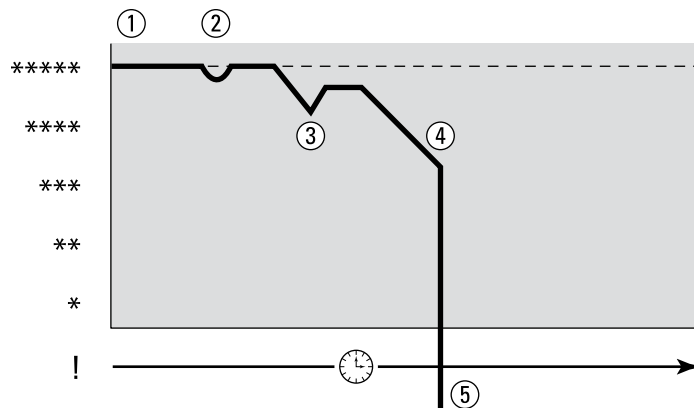


FIGURE 11-2:
The Graph of
Good Intentions.

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The narrative goes like this at the numbered points on the graph:

1. We got the last project badly wrong and there were no end of errors and faults, but on *this* project we are finally going to get a grip and do the job properly. On *this* project we are going to get it right, so top quality – 5*. Everything checked, double-checked and triple-checked. Everyone agreed? Good! The project begins and everyone is delivering top quality.
2. There's a wobble. Someone leaves out a test because they were busy and so didn't find a significant error. That affects other things which now aren't right and the project quality drops. But notice that the level quickly recovers because *this* is the project that we are going to do right. The problems are corrected and the project continues.

3. There's another wobble, only a bigger one this time where several things start to slide. Now some desperation kicks in; 'But *this* is the project where we're going to get it right.' The quality picks up again, but notice that it doesn't quite make it back to the 5* level.
4. Another slide, only this time quality doesn't recover and problems multiply.
5. Now there are a mass of problems and we're way behind schedule anyway having had to 'firefight' the worst stuff, so forget quality. We'll just throw everything together and get it all delivered somehow. But on the *next* project we really are going to do it right.

The graph is not serious, of course, but nevertheless you may recognise one or two elements at least from your own organisation. The root of the problem was that everyone assumed that top quality was what should be routinely delivered, but as already discussed in this chapter that is not the case. Some projects may indeed be 5* but not all of them, and probably in your organisation not any of them. In the graph, wouldn't it have been better to specify a more realistic 3* and actually achieve it rather than an unrealistic 5* and then deliver 0*?

When formality and auditing means . . . nothing

Another game concerns auditing and formal quality checking systems. Many organisations like to set up systems, encouraged by project bureaucrats, to monitor things. Senior managers then make the mistake of believing the results when those systems are actually compromised from the start or are even measuring the wrong things. When it comes to quality audit, the checks are often to ensure that all project products have been signed off. Checking that everything is signed off is entirely the wrong focus of the audit. The audit should be to ensure that the tests were actually done.



WARNING

It is a fact that sometimes people sign off things that they haven't actually checked; perhaps including people outside the project such as suppliers who are running behind and will say that something has been fully tested when it hasn't. When you load an app onto your phone and there is a box to tick to say that you have read all the terms and conditions, have you ever just ticked the box without even clicking the link to check them? Don't simply accept an assurance from quality audit that everything is okay with quality because there is a signature against every quality check.



TIP

Typical game players

Quality games can be played just about anywhere, but watch out for these particular hotspots:

- » **Outside suppliers – 1:** Watch closely where you haven't worked with the supplier before and you don't know the standard of work their staff are likely to produce.
- » **Outside suppliers – 2:** Be extra vigilant where there was a competitive bid and the selected supplier (selected by the contracts department) came in well below most of the other bids. That company may well have cut their bid to the bone and is now looking to cut every corner possible to make a profit.
- » **Outside suppliers – 3:** If supplier staff are working within your project, watch who the supplier company is sending in and how often those staff change. Some suppliers may try to use your project as a training ground and send in trainees. As soon as those staff have some experience under their belt, the supplier may send them off to more lucrative contracts at higher rates while their places on your project are taken up with yet more trainees.
- » **Staff under pressure:** Keep in close touch with your teams and watch out for pressure. If a team or an individual is under pressure to meet a deadline, they may be more likely to cut corners and 'just do the main tests', or even none.
- » **Staff in other organisational areas:** Where things need to be quality checked by staff elsewhere in the organisation but outside your project, be careful. Those staff have other work to do and your project may not appear as important in their eyes as in yours. They may be tempted to pay lip service to tests and checks and not do them properly.
- » **Senior staff in your organisation:** Senior staff can be a problem where they specify that a high level of quality is required, but then don't allocate the staff time and money to the project needed to achieve that level. That is game playing. You need to try to counter this one and talk about the balance, but because you are dealing with senior managers it isn't going to be easy.

Achieving a Culture of Quality

A lot of quality approaches talk about achieving a *culture of quality* which is an excellent term. If this isn't evident in your organisation, you can work to achieve it in your project. It starts with involving people in the quality process but then holding them accountable for delivering it. W. Edwards Deming was an American management consultant who is known as 'the Father of Quality' and is generally

credited with bringing about the Japanese economic miracle after the Second World War and making Japan a leading world economy. He said this about quality:

Quality is everybody's responsibility.

And:

What, hold everyone accountable? Ridiculous!

W. Edwards Deming stressed that everyone in the organisation should be held accountable for quality, and that's a great message for you and your project. Those working on your project shouldn't feel threatened by that either because nearly everybody wants to do a good job and wants the projects that they are working on to succeed.



TIP

If you want some good, often humorous, hints on good management in general and quality in particular, search online for W. Edwards Deming quotations.

Communicating quality requirements and procedures

Clearly it's no good thinking about and planning for quality if you don't tell your project staff about the level you are going for and the procedures you are setting up in the project. Make quite sure that they know by including quality in the things you talk about in project briefings. That may be:

- » At the start of the first delivery stage, the beginning of the project work
- » At the start of each subsequent delivery stage, as a reminder
- » When new people or whole teams join the project for the first time

Explaining the attitude to error

Most people are naturally defensive when it comes to errors in their work. They want to do a good job, but they also think that it reflects badly on them as and when mistakes are found. Well, perhaps it does reflect badly if the mistake is a silly one that they should have seen, but the fact remains that an error is an error and must be rooted out. If a team member feels bad about that, then they won't have to wait too long before they see someone else in the same position. The important thing here is to focus on the project, not the person.

Before moving to mostly business projects, I used to project manage the design and build of computer systems. When talking about document reviews, such as for

specifications, I used to emphasise to team members ‘We do not make our reputation out of error-free quality reviews. We make our reputation out of delivering computer systems that work. If someone finds an error in one of our documents, they have just helped us to deliver a computer system that works.’

In the culture of quality, the attitude to error must be that although there will be mistakes, we will work to find them and correct them. It is not a blame culture – everyone makes mistakes. The important thing is to work carefully, check carefully and then put right any problems that are uncovered. It is absolutely not about covering up errors. Facing up to errors may be tough, but delivering a faulty project with those errors then coming to light in front of the users of project products is worse. For all errors, no matter how large or small, openness and frankness is essential.



Make sure that everyone on your project not only knows the saying of the poet and satirist Alexander Pope (1688–1744) ‘to err is human’ but that they take it to heart. That is not to excuse sloppy work, but it is to help reduce defensiveness and cover-ups when errors are found.

Celebrating when errors are found

If you find the heading of this section a little unusual, I admit that it is overstated, but actually not that much and it relates to a very real problem. The problem is with junior team members.

Being pleased, or at least grateful, when errors are found in your work is a learned behaviour; it is not natural. Junior team members who are inexperienced are often very keen, and that is to be commended. They are also very proud of their work and that is also to be commended, but only up to a point. Let’s paint a picture here.

A junior team member has just finished four weeks’ work writing an important document. They have worked hard on it, taken advice and checked it carefully several times, and in two days’ time it is going to be reviewed. They usually read a goodnight story before going to sleep, but not in the two nights leading up to the review. Instead, they have checked their document again. Usually if they stir during the night they roll over and go back to sleep, but not on those two nights! Instead, the team member switched on their bedside light and went through the document yet again. Then the great day arrives, the team member proudly introduces their document, the review starts and . . . someone points out a major error on page seven; it’s huge. The junior team member is horrified and devastated in equal measures. Their natural tendency now is to rush everyone through to the end before anyone else finds something wrong with the precious document. That response is, of course, entirely the wrong one.

The sort of thing that you do want to hear in the check of a document is a team member – however experienced or inexperienced – saying ‘Yes, I see that those figures set down in Section 4 are wrong, thank you. Now I know that we’ve already covered Section 2, but can we go back to it please? Does that error in Section 4 mean that the last two lines in the table on page 15 are also wrong?’ The objective is to find errors, not to prove that team members are infallible. If everyone on the project was infallible, we wouldn’t need quality reviews and tests.

Getting On Top of Quality in Your Project

Quality is related to an individual project, so must be specified project by project. The organisation cannot set up a quality approach and apply it to all of its projects. In a large organisation, the quality required in a project to refurbish the reception area where important customers will arrive justifies very different quality to the project to repaint the inside of the stationery cupboard in a back office up on the fourth floor! The answer to the question ‘So what quality level *are* we going for in this project?’ is . . . the project Quality Plan which, happily, is the next thing covered in this chapter.

Drawing up an effective Quality Plan

The Quality Plan forms part of the Project Management Plan (PMP). You will find the full contents of the PMP set out in Chapter 2. Don’t be fooled that this is ‘bureaucracy gone mad’ because, as with other types of plan, the extent and depth of the Quality Plan relates to the specific project. A small, simple project that is not business-critical will often have a very much shorter and simpler plan than a large, complex project on which the future of the whole organisation rests. Even here though it’s simply not possible to be dogmatic because it is entirely possible that a small project may demand extremely high quality and consequently a high degree of planning and control. If you’ve already read Chapter 10 on risk and think that this is the same argument that a small project may justify intensive risk management, you’re right.



REMEMBER

The Quality Plan is an extremely useful document to set down information in the following areas:

- » **Quality Level:** The degree of quality required in this project, explained in a way that others within the project and organisation will understand. You might include a comparison with another project that is well known in the organisation and say that it will need similar quality effort because it will have similar business impact.

- » **Compliance:** It's helpful to include this section where there are mandatory or advisory standards such as laws and industry codes of practice. Then those looking at the plan can see that there can be no debate on these aspects.
- » **Testing:** In this section you can indicate the sort of tests that will be needed on the project's products. This is generic information though as the individual tests will be specified for each individual product on its Product Definition – there is more on Product Definitions in the next section. Indicating the sort of tests is helpful to flag up early on what sort of resource will be needed, for example qualified technical specialists.
- » **Procedures:** In this section you set down what procedures will be followed for quality work in the project. For example, when a test is completed and a product has reached its specified quality criteria, how will this be recorded? If an error has been found, how will that be recorded and how will it be recorded that the problem is now rectified? If a team member finds that it is impossible to meet the quality criteria for something they are working on, how should this be reported? For example, a physical item may need a particular component and that has been specified, but the team member now finds that the component is obsolete and cannot be purchased. It may be that a better equivalent is now available, but perhaps that better equivalent may not integrate with other components in the project. So, this could be messy and need careful thought across the whole project huh? Yes and that is exactly why the procedures must be clear and why project staff must follow them.
- » **Quality Audit:** This section is to specify how the project will be audited to ensure that the required quality is being delivered and the tests that have been scheduled were actually done. You may also specify who will carry out the audit so, for example, will it be someone from within the project or perhaps someone else in the organisation but outside the project and so more independent. On a very high-quality project you may even specify that the audit should be by people brought in from outside the organisation.

The Quality Plan is drawn up in the planning stage as part of the PMP, as explained in Chapter 2. However, you must take a look at quality before that when doing the project start-up. When creating a plan for the planning stage, who do you want to be involved in quality planning and how long will it take? You need a clear idea of the quality level you are going for before you can come up with a meaningful estimate for the quality planning within the planning stage. If the Quality Plan is small and easy, it may take just a couple of hours to produce and perhaps even less. If, however, you are about to run a project to build a nuclear power station – which might prove an interesting challenge if you are new to project management – then the Quality Plan might take weeks to produce.



REMEMBER

You must keep the project Quality Plan up to date throughout the project, as you do the whole PMP of which it forms a part. For example, if a team finds that there is an additional technical standard that is mandatory for this sort of work, then you should update the plan to include that.

As well as being a very real help with planning and control, the Quality Plan is also an invaluable communication tool where you have staff coming and going in the project. If, say, a new team is joining in Stage 6, those staff will (or at least should) want to know what the quality requirements are for the project and how the quality procedures operate. Rather than answering dozens of questions on risk, progress reporting, quality procedures and more, you can say 'Here is the latest version of the PMP. Please read it and then if you have any questions at all don't hesitate to ask.'

Building the foundation with good product definition

Product Definitions are where the rubber hits the road when it comes to quality for individual products. Product Definitions are part of product planning and you will find more on them in Chapter 5.

Three sections on a Product Definition relate to quality. The first is *Quality Criteria*. Here you set down exactly what quality the product must satisfy before being considered complete. For a computer program that might be that it generates the correct results when test data is entered. For a report it might be that it is a maximum of 25 A4 pages in company standard fonts with the content being clear and understandable.

The second relevant section on the definition is *Tests*. In this section you say how you will measure to demonstrate that the product has met its quality criteria. So testing the program and recording the results may be what is needed for the computer system. For the report, counting the pages is straightforward enough, but as for being understandable you will need someone to read it through. There's more on this later in the chapter.

The third quality-related section on the Product Definition is about resource; what skills (or lack of them) you need for testing and checking the product and later, when you've done the resource planning, exactly who will do it.

Using powerful yet simple logs



TIP

Keep your quality procedures as simple as you possibly can. This is partly because you should always strive to minimise overheads. However, another very important reason is that if the procedures are simple, people on the project will find them easy to understand and use.

In the context of project quality, welcome to two logs which are not only simple but also have low overheads and are extraordinarily effective.

Quality Log

The *Quality Log* is simply a list of quality actions. It is easiest to keep one for each delivery stage, listing all of the products and the tests to be done on each one. That information can be taken straight off the Product Definitions. To this list you can add any further quality actions, notably quality audits.

When a test is done, it is noted in the Quality Log. If a product fails a test, then the re-tests are added to the Quality Log and in turn marked as done when the tests are carried out. It is then really easy to double-check for products reported as complete that all the tests have been completed and the product passed, and that quality audits were carried out as planned. You want to be sure that quality actions were taken? Well, welcome to the Quality Log; a simple, effective and extraordinarily low overhead to set up and maintain.

Error Log

What's worse than biting into an apple and finding a worm? Biting into an apple and finding half a worm! What's worse than finding an error? Finding that error twice because we forgot to fix it the first time and now it's gone on to affect other products and cause much bigger problems.

No matter how formal or informal the quality check, all errors should be recorded in an *Error Log*; perhaps just a simple sheet of paper with columns or an electronic equivalent, headed with the ID of the product and who was doing the check. Then, when the errors are put right, the item can be ticked off on the log. The log should be kept as a record to know what was found and to be sure that errors were indeed rectified. In bigger projects particularly, you may want to keep more information (though still simple, such as who corrected an error, how and when).

Auditing quality effectively

Where you have a choice or a say, you may opt for a regular audit in your project or perhaps a regular audit supplemented by spot checks. The regular audit will be at intervals during a project stage to check that tests that should have been done on completed products in the last period have been done. You might then add spot checks during the testing to be sure that they are being done correctly and, importantly, by the right people. Clearly the greater the frequency of the audits, and the inclusion or not of spot checks, will have an impact on the resource needed for the project – back to the quality scales again then.

When it comes to the audit:

- » **Check what auditors are looking at:** Talk to the staff doing the quality audit and find out what they are checking. You may find, happily, that they are checking on quality work carefully or, unhappily, that they are merely scanning the documentation to ensure that every item has a signature on it; illegible though that may be.
- » **Look at who has performed the check:** Look carefully at the sign-offs. You will want to be sure that the test has been conducted by the person you specified, or a person with the level of expertise and experience you specified.



TIP

Watch out for a busy section delegating a check to an inexperienced member of staff because the qualified and experienced specialist that you named is currently very busy doing something else. You may find that the person who actually did the test only joined the organisation the week before last, hadn't got much to do apart from make coffee for everyone else in the section, is still only a trainee and has only a vague, theoretical understanding of the technical aspects of the product they are checking. As an aside, if someone who has been scheduled to conduct a test finds themselves too busy at that time because of an important and time-critical job in their normal work, what should they do? Yes, tell the Project Manager and either suggest someone else who would be suitable or discuss when they will be available. That communication need also links back to the stage planning where you should warn people when they will be needed and then keep them up to date with any changes to that if the stage is running ahead or behind schedule.

Delivering At the Right Level

Okay, so you've specified the level of quality that's needed and justified in your project. Now you need to be sure that you're achieving it! That means the right sort of testing in addition to using the right people.

Specifying the right sort of testing



There are two broad categories of test, objective and subjective. *Objective testing* is where something can be measured and there is no dispute – the report page size is A4. *Subjective testing* is where something is a matter of opinion – the report is understandable.

There are also two other broad categories of testing, notably where a product is external (see Chapter 5 for more on internal and external products) and coming in from a supplier. For a particular product, you may opt for either a solid or clear box approach, as illustrated in Figure 11-3.

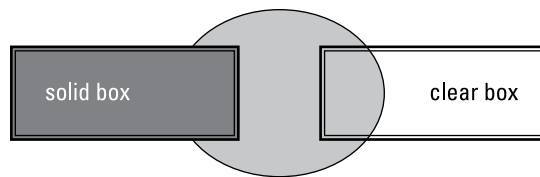


FIGURE 11-3:
Solid and clear
box quality.

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Solid box is where you are not concerned about the inner working of a product. You test by entering the inputs and checking the outputs. If the outputs are correct, you are content. Perhaps a computer module would be acceptable if it performs correctly in this way.

Clear box is where you need to see inside and want to be sure that the product has been created correctly. For example in a different area, prestigious food stores don't just check for bacteria in sandwiches delivered by their suppliers. They send their own inspectors into the supplier's facilities to make sure that the production process is hygienic. If you need to 'see inside' how a product is built, this could affect the contract for the supply where you will need to be sure that you have right of access for your staff into the supplier's premises to check on your product in development and perhaps during the testing.

Using the right people

For some tests you will want experienced people, such as engineers or for this book proof-readers to go through the text. In other tests you might choose someone from the area that will use the final product, such as the target audience for a report. It's going to be essential for quality to get the right people involved in testing, and sometimes you will indeed want them for their expertise but at other times you will want people who are suitable because of their lack of expertise.

I'm sure that like me, you have fretted over a user manual for a new gadget. You just can't follow the instructions at all. The problem is often that the user manual has been written by someone on the team who is an expert and helped build the product in the first place, and then checked by someone else from that same team. The difficulty is that they already know how the thing works and they don't realise that they are assuming knowledge and understanding. Even if the manual is written by someone knowledgeable, it should then be checked out by someone who has never seen the product before.

Reviewing Products

Projects involve documents and many of those documents must be tested just as bits of machinery and computer code are. Possible documents include floor plans, equipment specifications, user manuals and even the Project Plan. There are two forms of review that you can use to test a document and they are informal review and . . . ah you guessed it . . . formal review.

Using informal review (peer level checking)

This sort of review is where a colleague checks a team member's product. They go through it and list any errors, but also any queries. And please note that word 'list'. It's important to use an Error Log for this sort of test just as much as any other. Even informal reviews should use Error Logs – see the warning about the apple and the worm in the Error Log section earlier in this chapter.

Where something looks wrong, the reviewer can talk about it to the team member(s) who wrote the product. Perhaps a particular query is because the reviewer misunderstood and there is a reason why some technical aspect has to be the way that it is. Or perhaps the team member says, 'Yes, that does look odd, and there's a reason for it; it's wrong! Thank you.' When any errors have been put right, the reviewer can check the product again and hopefully it is all fine this time. If not, Error Log time and around we go again.



REMEMBER

In many tests, when errors are found and corrected, more errors may be revealed or, in some cases, may have been created. That's why re-checks after error correction are important. There's more on this point later in the context of formal quality review.

As with any other test, be careful to choose the right person to do an informal review. If you want someone to check your Project Plan, an ideal person is an

experienced Project Manager because they will know the sort of things that can be overlooked. The person you don't want is a trainee Project Manager who has never actually run a project and is fresh off a course run by a trainer (who can only recite what is in a project manual) and who then hands back an empty Error Log with the words 'Well, it all looks okay to me.'

Using formal review

Formal *Quality Review* (QR) is a meeting to go through a document. Don't be put off by the fact that it's a meeting because these reviews can be really effective.

In the meeting there are four roles:

- » **Chair:** This is simply a manager who has skills in running meetings.
- » **Presenter(s):** A person, or possibly more than one, who will talk about the product under review. They may or may not be the people who created the product.
- » **Reviewer(s):** One or more people who will check the product and say whether it is correct or not.
- » **Administrator:** Someone who will note down any errors in an Error Log and brief details of who found each error and any discussion on them. This person will also set up the QR, circulate copies of the notes afterwards and arrange things such as the room booking.



TIP

The presenter in a QR must be someone who understands and can explain the product; they may or may not be the person who created it. If the excellent and highly skilled team member who wrote the document under review is nevertheless a nervous, inaudible mumblor in front of other people, then it's going to be better to get another person who knows the area to present the product in the review meeting.



TIP

Rules for formal QR

There are some strict rules for a QR. These are not bureaucracy or control-freak stuff, but really practical things that help you get it right:

- » **Manageable 'chunks':** The review meeting should be 45–60 minutes long at most. If the document is large, break it down into smaller sections for review, with each section reviewable within that time limit.

- » **Circulate the product in good time:** Send copies of the product to the chosen reviewers well before the QR. This is to allow them time to go through the document carefully, note any errors or questions, and send them in to the Administrator to be put on the list for discussion at the meeting.
- » **Keep the meeting to time:** The chair should not let the meeting overrun. If the review isn't completed in the time, the remainder should be re-scheduled. That way when someone is asked to be a reviewer and attend a meeting, they will be there for no more than an hour; not like those six-hour marathons people got trapped in on that other project that makes potential reviewers do everything they can to avoid the job.
- » **Presenters should not try to fix errors:** In the review meeting itself, the presenters should never, ever, try to fix the errors on the spot. You'll find more on this in the nearby sidebar 'Don't fix errors during a QR'.
- » **Egos are left outside the door:** Presenters and reviewers alike must keep their egos right out of it. Presenters should not be defensive and try to minimise, ignore or pass over problems to preserve their reputation. Reviewers must not attack with 'point scoring' because in turn that will make presenters defensive. 'Oh yes! And there's an even bigger mistake on page 3, but even that pales into insignificance compared to the huge mess on page 7. Call yourself experts? My kids do better than this in IT classes at school!' The chair should stamp on any such behaviour, including criticism more subtle than in the example, but it shouldn't happen because everyone should be clear about this rule at the start.

DON'T FIX ERRORS DURING A QR

If the presenters also happen to be the people who wrote the document, which is often the case, it can be very tempting to fix mistakes on the spot. 'I've got the text on my laptop here, so if I just change that 5 to a 7 at the top of page 15 . . . there, done it.' This is potentially very dangerous, hence the rule that it should not be done. The problem with a knee-jerk reaction in the middle of a meeting is that something, or more than one thing, will get overlooked and that fix will create more errors, and perhaps affect other products, which were not thought about in the meeting.

The rule stands, don't fix errors during a QR. Instead, the document is taken from the QR with the Error Log and each error is carefully considered and put right. That way any knock-on effects, including any necessary change to other products, can also be found and dealt with.

Outcomes of a QR

There are three possible outcomes for a product that has gone through formal review, and the outcome is decided during the meeting:

- » **Signed off:** The document is correct and can be signed off at the end of the meeting.
- » **Signed off after correction:** The document is worked on again by the team and each error is corrected. The remedial work is checked by the reviewer who spotted the problem in the first place, and when all of the corrective work has been approved, the document is signed off.
- » **Re-review:** The corrective work on errors could impact on the integrity of the whole document, so when the remedial work has been completed, the reviewers want a new Quality Review meeting to go through the whole thing again so that all of them can make sure that it is all okay.

A large, white, stylized number '3' with a subtle drop shadow, positioned on the left side of the slide. It serves as a background element for the title text.

3

Putting Your Management Team Together

IN THIS PART . . .

Understand the organisational structure of a project, focusing on establishing clear roles and responsibilities and understanding exactly who should do what.

Discover how the individuals in project teams can work well together. See what factors motivate and demotivate them and what you can do to help get maximum productivity while ensuring that team members thrive and progress personally.

Recognise the impact of good and bad leadership on a project, and ensure that yours is the good kind.

- » Looking at roles and responsibilities in a project
- » Getting the organisational structure right
- » Understanding exactly who should do what
- » Checking out the implications of a matrix organisation

Chapter 12

Organising the Project

To get any job done involving more people than just you, some organisation is needed. You need to know who's doing what, who's in charge and who's responsible for different aspects of the work. It's normal for any group of people beginning a task ranging from pitching a tent to running a major corporate project to say, 'Right, let's get organised.'



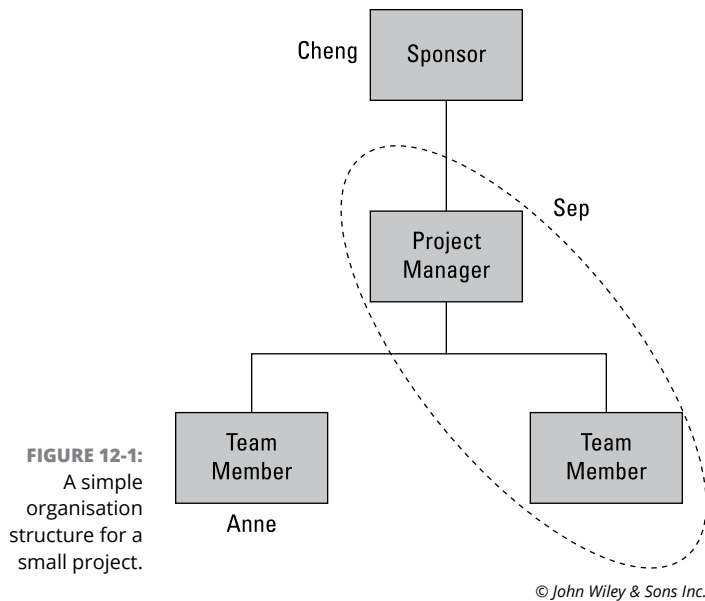
KEY TO
SUCCESS

In a project, clear organisation is vital. A commonly reported cause of project failure is communication breakdown, and in turn a lot of communication problems result from unclear roles and responsibilities.

This chapter, then, is all about project organisation. It gives you some different options and give some hints and tips for getting it right.

Designing the Project Organisation

In a small project, the organisation may be very simple with just a Sponsor who's the manager that wants the project and is paying for it, a Project Manager who often does some of the project work alongside managing it, and then perhaps one or two more people who help with the work as team members. Figure 12-1 illustrates a simple organisation structure.



In Figure 12-1 only three people are involved in the project. Cheng is the manager in overall charge of the project and takes the role of Sponsor. Sep is the Project Manager running the project day to day, but is also doing some of the project work himself so is also taking the role of a team member alongside his project management work. Anne is a technical specialist who's in the project as a team member, and she's working with Sep on the technical work.

In a bigger project, you'll probably have a Project Steering Group (PSG) or project board in overall charge, a full time Project Manager, and then a number of teams from inside the organisation and perhaps some teams from outside suppliers, each team with a Team Leader.

You may need to fight a bit – politely of course – to get an appropriate structure for your project. If your organisation has a standard organisation structure for its projects, geared to satisfy the needs of large projects, it's almost certainly going to be excessive if your project is small. It may take some effort to convince organisational managers that your project should have a simpler, smaller structure, but that effort will be repaid when you don't have to deal with an unwieldy structure right through the project. One way to help sell your argument is by showing that the project will have lower overheads.

Understanding it's about roles, not jobs

People often talk about 'roles and responsibilities' without thinking too much about the phrase. In projects, though, the word *role* is very significant and also very helpful when you're designing the organisation of a particular project. The word is significant for three reasons:

- » **One person (job) can have more than one role.** In smaller projects especially, one person's 'job' on the project could be made up of a couple of roles. An example is given in Figure 12-1 where Sep is the Project Manager but is also doing some of the work of the project. When he's doing technical project work, Sep is a team member. But when he's managing the project, he's a Project Manager. So Sep wears two hats: His project job is made up of two roles.
- » **Some roles can be shared by more than one person.** A normal role on a PSG is that of a user manager representative to make sure the project is delivering things that the user staff can operate. That *Project User* role can be split between two people. For example, if the project is delivering things that will affect staff in two operational departments, you may want a manager from each department to sit on the PSG to make sure the deliverables are okay for each department's people. So two managers fill the Project User role in that example.
- » **Roles emphasise function and not status.** Project work isn't about status – how important someone is in the organisation – but function. Project organisation can turn normal reporting lines completely upside down. The Project Manager may be a relatively junior manager in the organisation, and one of the teams may have a very senior legal adviser on it. So in the project, a very senior manager may be accountable to someone who's much more junior in terms of grade. Have a look at Chapter 13 if you're a bit bothered about project managing people on your project who are much more senior than you.

Over the years I have provided project training and consultancy advice to a number of UK police forces. UK police forces are very 'command and control' orientated, and in many cases more so than the military, so someone's rank is extremely important. One project involved significant change in force policy and, because of this, two of the team members were the Deputy Chief Constable and the Director of Human Resources (the most senior civilian grade in the force). The Project Manager was a police inspector (two hops up from the bottom grade: constable to sergeant to inspector). The normal reporting lines were turned completely upside down in the project, and a team member who was the Deputy Chief Constable was accountable to the Project Manager who was an inspector. That's okay, though. Project roles are about function not status, and the police officers involved fully understood that.

Getting to grips with project roles

Where your project is more than a very small one, you're going to need a more sophisticated organisation structure. Do be careful in your thinking when you do the work to set this up, though. Always keep the structure as simple as possible.

Figure 12-2 outlines the roles. You can have all of the roles filled with relatively few people if you need to. You can get models for project structure from many places, but this example comes from a project method that I wrote with a friend and colleague, though is not in circulation now that these methods have gone out of fashion. As the method is ISO (International Standards Organization) compliant, the diagram is robust and useful. Although you can see that this is more detailed than the simple example in Figure 12-1, it's also very flexible.

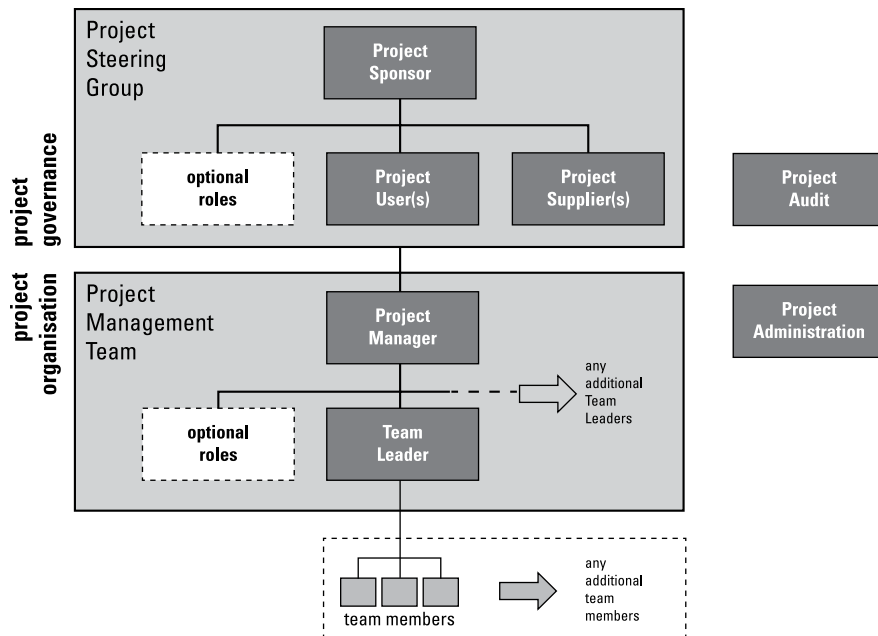


FIGURE 12-2:
An example of
project
organisation.

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From the PRIME method; used with permission.

Looking at the roles

This section explains the roles as set down in the example in Figure 12-1. At first glance you may think that the full organisation structure looks complicated, but actually one simple analogy will make it seem easy. Think about departments in most organisations. You have the head of the department and the senior

management team of the department, then you have some middle managers, then you have more junior section managers and then the operational staff doing all the work. Okay, now think of the project as being like a temporary department and you've pretty much got it. The senior management team is the PSG with the Sponsor as head of department, the Project Manager is like a middle manager, the Team Leaders are like the section managers and the team members are the operational staff; easy.

To pre-empt part of the explanation that follows, have a think about who should be held primarily to account if the project (department) goes badly wrong because of avoidable problems such as setting unachievable targets or providing insufficient staff resource to have even a hope of completing the job on time. Contrary to the thoughts of many people, it's not the Project Manager, a middle manager. If you're a project Sponsor reading this, prepare for some discomfort as the implications of that thought sink in. If, however, you're a Project Manager who's weary of 'carrying' ineffective senior managers on projects, you're probably punching the air and silently shouting 'Yes!'.



TIP

As far as it is in your power, make sure that people associated with your project understand all of the roles, not solely their own. That way they not only understand what they are supposed to be doing, but they also understand what other people are supposed to be doing. That clarity helps avoid the mis-communication already mentioned as a problem in so many projects.

Project Steering Group (PSG)

This is the top management team of the project. In a smaller project, you may have a single Sponsor taking all the PSG roles (see the later section about Sponsors).



TECHNICAL
STUFF

You may know the top management group as a *project steering committee* or *project board*.

The PSG is the top management team of the project 'department' (following up on the analogy a couple of paragraphs ago.) So it is the PSG that is in charge of the project. The PSG is there to make sure that the project is doing the right thing and is being run correctly. It's also there to support the Project Manager in the same way that senior managers in a department must support their more junior managers.

Making sure that the project is being managed well comes under the heading of *project governance*. The top managers of the whole organisation are responsible for ensuring good governance across all their projects, but for each individual project the buck stops with the PSG. You'll find more on project governance in Chapter 22.

The PSG must make sure that the Project Charter is correct, and that sets down the more strategic parts of the project such as the Business Case and scope. The Project Management Plan (PMP) contains the more tactical aspects which are primarily the domain of the Project Manager. However, with their ‘governance’ hats on, PSG members must be satisfied that these plans are appropriate and will work. They must also help the Project Manager build the plans as the Project Manager can’t do that in a vacuum. For example, how much risk is the PSG willing to accept? What funding can be made available, and when? What staff resource can be provided and are there any constraints on that? These areas and more require input from PSG members. It follows that members of the PSG must have sufficient time available to participate when these plans are being drawn up.

During the project, the PSG should get regular progress reports to check that everything’s okay. It’s up to the PSG to decide the exact information they want and the frequency of the reporting, which could be to a monthly progress meeting for example. Then, at the end of each stage, the PSG should conduct a thorough check of the project at the Stage Gate and, if everything’s okay and the project remains viable, give the Project Manager permission to go ahead with the next stage.

Most good project approaches, including the international project management standard ISO 21500, recognise three perspectives which need to be reflected in the PSG or its equivalent. These perspectives are *business*, *user* and *supplier*. You’ll see the three perspectives coming out in the more detailed PSG role explanations in the following paragraphs.

Project Sponsor

If the project was a temporary department in the organisation, then this role would be the head of department. The project *Sponsor* is supported by other senior managers in the PSG, but is the manager ultimately responsible for the project. This position makes sense. In a department you have one person in overall charge – the head of department – and in a project you need the same thing. The Sponsor will work with, and listen to, other members of the PSG very carefully. Normally they’ll reach decisions by consensus and quite happily, consulting with the Project Manager as they do so. If there’s disagreement, however, the Sponsor makes the final decision.

If you’re the Sponsor, the project is ultimately your project, so get into the driving seat and take ownership of it. Too many Sponsors think that the project is the sole responsibility of the Project Manager and go on to act as helpless observers. However, ‘getting into the driving seat’ doesn’t mean that you do everything. You have to strike the normal management balance where you make sure that everything is okay, but allow other managers sufficient authority and room to function. Don’t

fly to the opposite extreme and start to micromanage. If you don't trust someone to do a good job as Project Manager, don't appoint them.



WARNING

The Sponsor role can't be shared. Don't ever have a committee, for example, as project Sponsor. All members of the PSG are responsible for making sure that the project is viable, but the Sponsor has specific, final and personal responsibility for it.

Of the three perspectives of business, user and supplier, the Sponsor's main interest is the business perspective. Although the whole PSG must ensure that the Business Case is sound, it's the special responsibility of the Sponsor. The Sponsor will usually secure funds for the project and must make sure that the project is value for money, including changes. If someone wants a change to the project, is it worth the expense? The business perspective also involves making sure that the project is in-line with organisational strategy and checking the organisational impact of the project. For example, it's no good a department running a project that will save it £250,000 a year in staff costs if it will cause chaos in other departments and increased annual costs to them in excess of £1 million.

If you're a Sponsor, or someone has suggested that you take the role, make sure too that you have enough availability to do the job. For example, if the Project Manager needs to talk something through with you, it's no good telling your PA to make an appointment for them when you next have an available 30-minute slot in six weeks' time.

The project Sponsor must understand both projects and business, of course, but must also have sufficient authority to take decisions, and preferably some enthusiasm, charisma and leadership qualities to provide drive within the project. A bored and uninterested project Sponsor isn't going to inspire enthusiasm and hard work within the teams.

Project User(s)

The *Project User* is the person whose staff will be using whatever the project is delivering. The Project User is there to provide a strong link between the project and the staff in the operational area. Clearly, this role covers the user perspective of the three areas of business, user and supplier. The user perspective is vital. Too many projects have delivered things that are hard to use because not enough attention has been paid to what the user wants or to the way that they work. In some extreme cases, project products have been abandoned because they are totally unsuitable. The Project User is an important voice to make absolutely sure that doesn't happen.

The Project User also provides any business staff who are needed on project teams to help specify what is needed, perhaps to help test final products to make sure that they're okay for operational use, and even more besides. The Project User role can be shared between more than one person, but don't get carried away; you want and need a small PSG.



TIP

Keep your PSG or project board small; preferably with around three people (it could be smaller) but with a maximum of six. Often big management groups don't ever actually meet – there's always someone unable to make the meeting. In addition, sometimes the PSG needs to get together quickly, for example if there's a big problem or if someone has come up with a great idea that, if adopted, will have a significant impact on the running of the project. If the PSG is anything other than small, there will be little or no hope of getting them together in a hurry.

Project Supplier(s)

The *Project Supplier* provides the 'technical' staff resource for the project – the teams – and is the third and final perspective in the three of business, user and supplier. The supplier voice is extremely important, not least in the area of resource. Some organisations commit to a project and gear everything up for delivery at a certain time, then react with shock when they find that their specialist staff don't have sufficient capacity to meet the deadline.

The Project Supplier must have the authority to commit resource, or get that authority from others. You don't want the Project Manager running around trying to persuade people to take part – especially if that Project Manager is you. Rather, you have a Project Supplier who has the organisational authority to commit resource. If the project involves a major outside supplier company working on the project alongside organisational staff, you'll probably want to have two people in the role. The supplier from your own organisation will authorise internal staff resource, and the supplier from the supplier company will authorise staff resource from that company.

The Project Supplier should be aware of the technical area covered by the project and knowledgeable enough to understand it. That doesn't mean they have to have the same skills as the Team Leaders and team members though, but they certainly do need to understand what they're doing, what standards they're working to and if the things that they're building are suitable to meet the user's needs. This technical understanding brings in another important requirement for the Project Supplier and that is to be able to explain technicalities to other PSG members in a straightforward and understandable way. The Sponsor and Project User may not understand the intricacies of the latest international safety standards for inverted laser-widgits operating with three-nanosecond burst technology. The Project

Supplier must be able to explain the key aspects simply and clearly enough for the PSG as a whole to make sensible management decisions on the running of the project.



TIP

If you have a lot of user interests, don't try to pack lots of Project Users into the PSG and break my guidance on small PSGs. Instead have a user consultative committee, of whom the chairperson is also the Project User on the PSG. However, make sure that this doesn't bring about a deadlock where the PSG can no longer make decisions without formal approval from the user committee. The user committee should not be part of the project decision-making structure. The same applies if you have a lot of suppliers. In that case you may select the supplier doing most of the work (the 'lead' supplier) as the Project Supplier and that person will then consult with the others outside the PSG. When the Project Supplier signs something, such as resource commitments, they do so having already got agreements from the other suppliers involved.

Project audit

It makes sense to have the project checked now and then to be sure that everything's okay. *Project audit* does that checking so that the organisation (and the PSG who get a copy of the audit findings) knows that the project is being run well. That's no different in principle to a board of directors having an audit team who check things out for them and a financial audit team doing checks and reporting back to the finance director. Notice that the audit function is outside the PSG and outside the day-to-day management of the Project Management Team so the audit is independent. The independence is vital and an important project governance point that's picked up on more in Chapter 22.



REMEMBER

Unless the Project Manager is a devious and disreputable soul – so definitely not you, then – they have nothing to fear from a project audit visit, and actually the reverse. The Project Manager should be really pleased when project audit people appear in their office to do some checks. To draw a simple parallel, have you ever had a really tricky piece of work to do, and when you were finished you weren't too sure of it? Perhaps you asked an experienced colleague to cast an eye over the work for you. They did so and asked one or two questions. One question highlighted a mistake in your work, so you put it right. Then your colleague said, 'Well, other than that, it looks absolutely fine.' How did you feel then? Relieved? Grateful? Almost certainly both, and then you can add 'more confident' into the mix. Good project audit is like that and not to be confused with trouble-seeking nit-pickers who should never, *ever* be put in the project audit role. Why do I get the sneaky feeling that the phrase in the last sentence is going to get quoted? 'I don't want that person checking my project. They're just a trouble-seeking nit-picker like Nick Graham says in the *For Dummies* book.'

Project Manager

As you look down the structure in Figure 12-2, the *Project Manager* is the first role in the Project Management Team which is the management level dealing with the day-to-day work of the project. The Project Manager is responsible for managing the project day-to-day and is accountable to the PSG. The Project Manager has specific responsibilities to plan the project, control it and manage the staff resource. Normally a project has a number of teams, so the direct team management will be done by Team Leaders, but the Project Manager still has an important function to motivate and direct the project staff.

In addition to the main elements of planning and control, the Project Manager must also deal with problems and changes, referring anything to the PSG that is beyond their delegated authority.



WARNING

Only have one Project Manager – just one person in the role. Some organisations break that rule and have a ‘Business Project Manager’ and a ‘Technical Project Manager’, for example. Splitting the role in two (or more) is a seriously bad move because neither person is a ‘project’ manager by definition. Nobody has a view of the whole project, each manager only sees their part of it. There’s a danger of things dropping down the gap if neither person saw it or one person saw it but assumed that the other person was dealing with it. In really bad cases, the two Project Managers can come to loggerheads – it’s been known! If you want a powerful analogy of this idea in another area of management, try a ship. Even huge cruise ships and oil tankers have only one captain when they’re on a voyage, and for the same management reason as in a project: one person knows what’s going on.

Team Leader

Unless your project only has a single team, in which case the Project Manager often runs it, every team has a *Team Leader*. The number you have depends, obviously enough, on the number of teams working on the project at any one time. Teams are often formed mostly from inside your own organisation, but you may have supplier teams on your project as well. Although supplier teams may be from outside your own organisation, they’re inside the project and, if you’re controlling the work, you need to include them in the same controls and reporting as for internal teams.

Many Project Managers maintain contact with Team Leaders both individually and by having regular Team Leader meetings where everyone can hear about progress across the project. The Project Manager can also use this meeting to collect information such as progress and time sheet information. The Project Manager can also push information out. Team Leaders can go back and tell their team

members so that information cascades. In bigger projects, that can be a very useful communication mechanism.

Team Leaders often do low-level detailed planning for their teams' work, but usually work with the Project Manager to help produce the plans at stage and even project level because they can provide valuable information on what work is needed in the project.

Team members

Team members are the people doing most of the work of the project, so they're arguably the most important people of all in the project. The rest is just management. You'll notice that this section on teams is short but that's not because it's not relevant. Rather it's because the area is so very important that you'll find two whole chapters – Chapters 13 and 14 – on the subject.

Project administration

If your project is of any size, it usually makes sense to have a *project administrator* or perhaps more than one if you have a big project. In large organisations, senior staff often have a personal assistant (PA) who manages the diary, books travel and accommodation, answers the phone, takes messages, sorts e-mail, answers basic enquiries, writes letters . . . well, you know the sort of stuff. Good PAs are invaluable and really earn their keep. So, too, in the project.

Project Managers can not only waste a lot of time doing admin, but also get distracted from running the project because they're too focused on admin stuff. It often makes sense, then, to have one or more than one project administrator who can do the admin work that's associated with all projects. Project administrators are normally of a lower grade than the Project Manager and so are lower overhead, but also, as very good administrators, they can probably do the work in half the time the Project Manager would take anyway. Project administration can also provide a service to the PSG, such as in booking rooms for Stage Gate meetings (more on these in Chapter 9) and taking notes.



REMEMBER

Project administration is not part of the Project Management Team because it isn't part of the management of the project. Rather the administrative service is a support function. However, beware of some approaches where it is part of the management team because that gives a wrong concept, not least to the staff doing the admin, and a huge number of problems have resulted from that. The 'service' function is not to devalue project administration any more than a PA to a top organisational manager is seen as unimportant. The role can be carried out highly professionally and be a major contributor to project success; it's just that it isn't a management role.

Some organisations centralise project administration and have a project office that gives this support to all projects. That's great for economy of scale, for gaining experience and so doing things very well. Also, the project office can then offer help to smaller projects that can't justify their own full-time administrators.



TECHNICAL
STUFF

Project administration is a service function. In some organisations, where the administrators serve all of the projects and have an office, the administrators have worked to take over, and that can be seen in the name of their office. Some approaches originally called this office the Project Support Office (PSO); that was good. But then a lot of PSOs wanted to be called the Project Office; not so good as the word 'support' has disappeared. Finally they moved to be called the PMO – the Project Management Office; bad. So who is managing the projects now – the administrators or the Project 'Manager'? These administrators have gained the ear of senior managers who like the idea of having everything neat and uniform and so have empowered the PMOs, who then dictate to the projects. That is a recipe for bureaucracy and ineffective control because, for example, even small projects with low control needs are hit with large-scale, inflexible documentation overheads. The best project offices I have seen are those where the staff recognise they are a service function, and then do an outstanding job providing a thoughtful, highly professional service geared to the needs set down by each individual project.

IF YOUR PROJECT IS IN A PROGRAMME . . .

If your project is part of a group of projects in a programme, headed by a Programme Director or equivalent, you may find that has an impact on project roles. Here are a few examples:

- The Programme Director has already made all of the appointments to PSG roles, and appointed the Project Manager, as part of resourcing the programme.
- Someone from programme management may take a role in the project's PSG so that a natural link is formed between the project and the programme.
- There may be an additional role on the PSG (see the 'optional roles' box in the diagram in Figure 12-2), which is a programme liaison person.
- The same person may take a role in the PSGs of several or even all projects in the programme to provide a natural horizontal communication between the projects at PSG level.

Influencing the selection of PSG roles

If you're a Project Manager, the upper part of the structure can be a difficult area because the people involved are probably senior to you. You can't easily tell your managers what they should do and instruct them in their duties. In management, it's traditional that the more senior people tell the more junior people what to do. If you're asked about the structure, that's great. If you're not asked, you may need to persuade, and the logic behind the project organisation here may help. One thing's for sure: if your PSG doesn't function well, it will be a significant problem in the project, and the Project Manager will have to do much more than is fair or reasonable.

Some PSGs and project boards are simply a disgrace and don't seem to regard projects as being in the same management environment as the rest of the business. Bad ones often delegate the whole project to the Project Manager and at the end take the credit if the project is a success or fire the Project Manager if it isn't. This management style has been nick-named 'Turkish slipper management': they turn up at the end! If ever that seems sensible to anyone, the comparison with a department in an organisation holds good. Would it be okay for the top managers to go on holiday for a year and put their feet up, and then come back at the end to see whether the department has been successful or not? No! Those senior managers are appointed to make sure that the department functions effectively and do everything possible to help their staff achieve success; it's no different in a project.

Defining Organisational Structures

The project organisation can be influenced by any project method or approach that you're using, but it's also affected by how the organisation itself is structured. Over the years, projects have evolved from organisational afterthoughts to major vehicles for conducting business and developing future capabilities. Naturally, the approaches for organising and managing projects have evolved as well. Some organisations have changed to become projectised where most of their work can be considered projects though services such as finance and human resources stay centralised, while still others use a matrix structure. The following sections consider both options.

The projectised structure

In the *projectised structure*, the Project Manager has a high degree of control over their staff. That is more than is normal in a standard, functional structure. The

Project Managers often keep the same team from project to project, supplemented from time to time by particular experts when necessary.

Here's an example of a projectised structure. I did some training and consultancy work in a company involved with the development and sale of a sophisticated computer package. The company has a large number of customers and the installation of the software is a considerable part of its business because the task is huge each time. It involves not only installing the package, but helping the customer companies change all their operating procedures to fit in with the new system. The company changed to a projectised structure on the installation side of the business. However, the software development and central functions such as finance remain in a functional format.

The matrix structure

The *matrix organisational structure* is a sort of hybrid of projectised and a more normal functional structure. For some specialist areas there is a pool of people who work on projects. It's normal for someone in the pool to be working on several projects at once, dividing their time between them. The matrix is simply that in their vertical column each member of the pool staff is responsible to a manager for their particular specialism, and then in the horizontal rows they can be allocated to one or more projects and take work instructions from the relevant Project Managers; a simple enough idea.

The pool makes good use of people's availability because they can spread their hours across a number of projects if necessary to make up a full-time job. It also means that you're likely to get the resource more quickly when you need it because people in the pool are dedicated to project work and so aren't trying to juggle that work along with a 'day job' in a department. There's also the point that a number of people in the pool may have the skills that you need, and again that may mean that getting the resource is less problematical.

Now comes the challenge though, because the matrix way of working brings problems as well as advantages. The problems mostly lie in the area of allocating staff time to different projects. From the senior organisation management perspective, Matrix Management can look really good because staff time can be allocated in smaller units so staff are 'fully utilised'. However, the holy grail of 100 per cent utilised can be a smokescreen because allocation and achievement are two very different things. If staff are constantly flitting from one project to another – an hour here, two hours there – how committed and motivated are they going to be? Someone may be fully allocated but that doesn't mean they're fully productive.



REMEMBER

Staff who are permanently on a team, who identify with the project and who are committed to each other and to the success of the project are going to perform much better than staff who are flitting between projects. It may be that full-time project staff who spend 20 per cent of their time playing electronic games or keeping up with social media while they're waiting for the next job to come up are more productive than staff who are 'fully utilised'. To read more on this, take a look at the book *Peopleware* by Tom DeMarco and Timothy Lister (Dorset House Publishing Company, 1999). The authors calculate that well-motivated staff in good organisations work 11 times faster than staff in poor organisations doing similar work. In the light of statistics like that, full utilisation seems rather less significant, and motivation and performance seem rather more important.

Experience has taught me that DeMarco and Lister are right and 'full utilisation' is dwarfed by performance differences. In addition, it's clearly nonsense in most cases that it doesn't matter who you get from the pool so long as they are in the right skills area. Have a look at Chapter 13 for how well people work together on teams for example. However, having staff set aside for projects rather than them juggling with day jobs does have advantage. My experience has led me to think that Matrix Management isn't such a bright idea, but your experience of it may well be different. Either way, if your organisation uses this approach then you'll have to work with it.

Taking note of the structure

The previous sections on options for organisational structure are intended to help you think through the implications for your project and the way that you structure that; you're unlikely to be able to change the way the business is organised just to suit your project! As you think about the way that your organisation works and how that can affect your project, include the following:

- » Where teams are outside your direct control and you don't have a Team Leader in your project organisation structure, how are you going to liaise with that team to make sure you get what you need when you need it? Think also if your project is likely to suffer because the team is also doing things for other projects and may put those needs before yours. Because you're not in control, you have no direct influence on priorities.
- » If you have people who are only working limited hours on your project, such as in a Matrix Management arrangement, will you integrate them into teams anyway? That may require Team Leaders then. Also take careful note of the guidance in Chapter 13 on motivation and performance. You're going to need to put much more effort into making such staff feel that they are part of the project.

- » Where people are on-loan for just part of their time, will that give you a control problem? If there's a crisis in their home department, will your project work be left undone because the departmental head has instructed all of the staff to work on the departmental problem? Your project may be important to you but it might not seem so important to various heads of department who are lending you staff as what they see a favour. You may want to talk this issue through with the project Sponsor and other PSG members in advance; don't wait until you hit a problem.
- » Where people are seconded to your project, what authority will you have over things like annual leave? Also, what is to happen to these people when the project finishes? If the project is longer than a few weeks, departments may have replaced the staff that are currently working on your project because those departments still needed to get their work done. That may add *succession planning* to your project. If staff think that they won't have jobs to go back to, that could become a major distraction or they may even leave to get a more secure job with another organisation.



WARNING

In some organisations, staff have been seconded to a project, then made redundant at the end of it because their old jobs have been filled and there is no longer a place for them back in their home departments. In those organisations, staff will do anything they can to avoid being recruited to a project because it's effectively a shortcut to the redundancy list. Where staff are forced onto a project their morale is now somewhere deep in the bilges of the lower basement and that has obvious performance issues because you have a deeply unhappy set of staff on your hands. Departmental managers may even send their less valued staff to projects because it's an easy way of replacing them. Succession planning is vital and should be very open so staff know that they have a place to go to at the end of the project, and they know what that place is.

IN THIS CHAPTER

- » Figuring out where the teams fit in alongside the needs of the project and the individuals in it
- » Understanding why people work easily together or come into conflict
- » Managing technical specialists, senior managers and suppliers on your project
- » Getting top performance

Chapter **13**

Working With Teams and Specialists

Are you working completely on your own on a very small project? If so, you're in a very small minority and instead of reading this chapter you can put your feet up, stretch luxuriously and take a power-nap. If not, read on because this chapter covers yet another important area of your project: the people who will do the project work.

A characteristic of nearly all projects is that they're not something one person can deliver on their own. It takes a number of people working together to achieve the end result either because the work is too much for one person, or because different skills are needed, or both. And notice the words *working together* in that last sentence. Just how well they work together will have a huge impact, obviously enough, on just about every aspect of the project from timely delivery on the one hand to good quality on the other.



It's tempting to rush into the project work to get things done, and all the more so if you have a fixed delivery deadline at the forefront of your mind. But spending time ensuring that you have the right people, then that they will work well together, can save you huge amounts of time on your project enabling you to deliver earlier. Read on to understand how the whole can be greater than the sum of its parts when it comes to teamwork.

This chapter looks at some basics of effective team working in the context of projects and project management. After reading it you might want to dig a bit deeper into the general area of good team management, in which case get hold of a copy of *Managing Teams For Dummies* by Marty Brounstein (John Wiley & Sons, Inc., 2002) or have a look for books by Professor John Adair. While on the subject of other books, look out also for *Project Checklists For Dummies* by Nick Graham (John Wiley & Sons, Inc., 2014) which has some checklists around the areas covered by this chapter as well as other checklists and templates which could save you quite a bit of work.

The term 'project team' is bandied about a lot, including by business managers when allocating people to a project. A manager grabs hold of a few people who made the silly mistake of not looking down and appearing to be very busy when the manager glanced round the office. These unfortunates are now herded into a meeting room and the business manager tells you 'This is your project team' with a look that says 'And don't you even think of objecting because you're lucky to even have these.' The trouble is that a group of people who have been put together don't necessarily function well as a team. In a project you don't want a room-full of isolated individuals but rather a co-operative group that will work as one while respecting individual skills and, ideally, where the whole is greater than the sum of its parts; more about that later in this chapter.

Good teams rarely come together by chance. It takes selection on the one hand and some team-building effort on the other. So before getting into the detail, there's a first point to note. When you're planning a project and you know you're going to have staff who haven't worked together before, allow some time for team-building.



You may have reacted to the last paragraph and the word 'selection' by thinking 'Fat chance. I have to work with who I'm given and I never get the chance to choose people.' If so, don't feel lonely because a lot of people are in the same position as you; I've been there myself and have the T-shirt. However, sometimes you can influence who you are given by asking for one or two particular people and explaining why you need them. You may also find that you have the power of veto so you can turn someone away. I've done that where I know that someone is particularly unsuitable and that the team will perform better, deliver earlier and work more happily without that person, even with the lower headcount.

Looking At the Team in Context

A number of team-building experts, including Professor John Adair mentioned in the introduction to this chapter, have identified three areas you need to think about when managing staff resource on a project. They're often illustrated in the form of a Venn diagram as shown in Figure 13-1. The three areas are:

- » **The project:** You must get the job done and deliver the project.
- » **The team:** You must look after the needs of the team, so you can't have individuals putting their needs first and as the only priority.
- » **The individual:** Yes, the people are important and you must work to meet their needs too, such as in the area of personal development and having the occasional holiday.

You must manage across all three areas; you can't just pick on one, such as 'the project', and ignore the other two. And as the Venn diagram shows, there are interactions between the three areas. For example, you want to keep the project on track but one of the team members has a child who has become very ill and has just been rushed to hospital. Are you really going to tell the team member that they must work overtime tonight so that you don't miss that deadline for the completion of a product? In the overlap between the project and the individual, the needs of the individual must win out in that situation and you'll say to them 'Go to the hospital – *and go now*'.

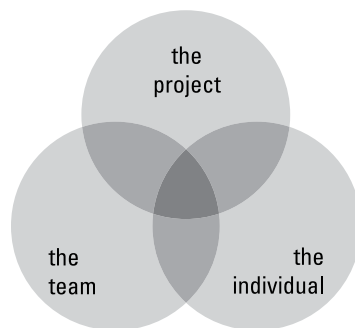


FIGURE 13-1:
The Venn
diagram for team
management.

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To take a second example, what about the overlap between the individual and the team? It may be best for a particular person to have all the challenging work so that they enjoy their time on the project and gain the experience which will give them a better shot at promotion. However, what about the needs of the team? The team won't function well if the same person is always given the best work and

everyone else is left with the boring and routine stuff. To keep the team working well, the team needs must often win out over what may be ideal for a particular individual.

The area in the middle of the diagram is where you are resolving conflicts between the three factors to achieve a happy project in which the work gets done, the team functions perfectly and everyone's needs are met for interesting work and they have a wonderful work-life balance. Be prepared for that area to be fairly small though because in most cases you will be making compromises where nothing is absolutely perfect. That's just life . . . and that's projects too!

You may find the diagram and the three circles particularly helpful as you plan your use of staff, when considering at the work to be done. For example, just how are you meeting Joanne's needs as a team member? She's asked for the opportunity to work on room design during this project. When planning the resourcing of the 'Room Design' product, you could put her alongside Huang who is a bright guy and very good at this stuff. He's also great at explaining things to other people; and he needs someone to work with him on this task anyway. So, you can meet Jo's wishes for her personal development having checked that you can afford for this task to take a bit longer because of her inexperience and the need for Huang to explain things. How do you know you can afford the time? Because as you're doing the resource planning you're looking at your activity plans and what's on the critical path. If the room planning task is on the critical path then you may take a different view to allocating Jo to the job. Planning is good isn't it, and see how effectively the different techniques work together? If you're not yet familiar with planning and the critical path, don't leave it too long before looking at Chapters 5 and 6. Then there's more on matching people to tasks in Chapter 7 which covers resource planning.



TIP

The Venn diagram in Figure 13-1 is simple and because of that you may find it especially helpful. You will sometimes manage intuitively and you'll send your team member to the hospital to be with their sick child without a moment's hesitation, even though you know that you'll miss an important deadline as a direct result. But in other instances a simple model gives you a framework to help you get a full picture and make a good decision. Simple models are good because you can hold them in your head and bring them to your mind's eye when needed. The Venn diagram for team management is one of those helpful models.

Working with Team Leaders

In a smaller project, you may well have a single team in which case you'll manage the team as well as managing the whole project. Indeed, you may also have a dual role and be a team member doing some of the work yourself as well as managing

the work of the other team members. In a larger project you may have several teams, each with a Team Leader reporting to you as the Project Manager. However, if you are the Project Manager in a small project, don't skip this section because some of the issues will still affect you. To see where the Team Leaders fit in and to understand a bit more about the project organisational structure and roles, have a look at Chapter 12, including Figure 12-2.

In larger projects it's still important for the Project Manager to be involved with the teams to some extent – so don't hide in some project ivory tower where the people doing the work are only vaguely aware of your existence. It's important to be out and about and that's for three reasons:

- » **Being seen:** It's motivating if people see you around then you seem more of the 'us' which is the project and that helps build cohesion and team spirit.
- » **Assessing performance:** You can find out so much more about how your staff are performing if you see them where they work. You will see from their expressions and behaviour whether they are lively and enthusiastic or down and demotivated, purposeful in their work or aimless.
- » **Getting information from the horse's mouth:** If you want to know what's happening on some aspect of the project that a particular team member is working on then go and talk to that person. Direct conversation avoids delay and also the possible misinterpretation and dilution that can happen if you always get information through Team Leaders. See the tip below if you're worried about undermining your Team Leaders' authority.



TIP

Team Leaders won't feel threatened by you talking directly to their team members if you make it clear at the start of the project that you'll be doing that when you need particular information. Assure them that you won't be undermining their authority, and then be absolutely sure that you never do.

I used to work in the UK central government in a division where, if the head of division wanted to know something, he'd go and ask the person involved even if they were the most junior person in the building. He'd go into the office area where that person was working, pull up a chair and ask them about whatever it was he wanted to know. There were several layers of management between him and the junior staff, but none of the managers at those intermediate levels felt in the least threatened by his approach. There were also two side-benefits for that senior manager. First, he knew just about everyone in his fairly large division. Second, everyone knew him and it gave a unified feel to the whole organisation. When staff saw him in the lift they would start chatting to him quite freely and he could talk to them with understanding because he knew what work they were involved with.

Accepting That People Are Different

So, what makes for effective team working in a project? Some Project Managers, and indeed general managers, have the unfortunate habit of gathering people around them who are just the same as them. Such staff members won't rock the boat by doing unhelpful things like seeing things differently or, shock-horror, disagreeing. In my project management training courses, one of my favourite illustrations on a slide is a cartoon of a man with his head under the cover of a photocopy machine. The man in the cartoon is printing copies of himself. I like it because it shows exactly what some managers do when selecting staff and it's one of the biggest mistakes they – or you – can make.

People are different and actually this section is about more than just accepting the fact and it really needed a whole paragraph as a heading. It's also important to celebrate the fact that people are different because that's valuable to your project and also it's about making use of the fact that people are different.

When building a team, look for strengths. Suppose that for part of the project work you are looking for people in three skills set areas, A, B and C. Sanjeev is brilliant in skills area A, passable in B but really not much good at all in C. Olivia, on the other hand is superb at C. However she is no good at all at B, though she can hold her own quite well in area A. Ajay has a reputation for excellence in skills area B; he is fantastic. He's okay with C but just can't seem to get it together with A.

So what if you put Sanjeev, Olivia and Ajay together as a team? That would give someone with excellent performance across all three skills areas, so the team output will be excellent. How different that is from organisational managers just getting some people together, assigning them to your project calling them a team. Perhaps they only have skills in D and E!

Using the Controller–Analyst Matrix

Another simple model that's useful in team-building and team-management is the Controller–Analyst Matrix. You'll find the diagram illustrated at Figure 13–2. It would be good to acknowledge the original creator of this model, but so far it's not proved possible to trace who that is. A lot of people have used it or adapted it and the origins are lost somewhere in the haze of that. The matrix is useful whether you have a lot of teams on a big project or are running a single team on a small one. It has two axes:

» **Controller–Facilitator:** You assess someone on whether their personality makes them more of a leader or one who facilitates and goes along with others and follows their lead. There are no rights or wrongs because both

characteristics are valuable. If you think someone is more of a controller than a facilitator, you give them a score of between 0 and 10 with the higher score being the more strongly they are a controller. If you think they are more facilitator than controller you give a score of between 0 and -10 with the -10 being wholly facilitator with no controller characteristics at all. If you think both aspects are evenly balanced, you score them as 0 on this axis.

» **Analyst-Promoter:** The analyst checks the fine detail and makes decisions based on fact while the promoter is more intuitive and impulsive. Again, everyone will have both characteristics but you evaluate if they are evenly balanced or if the person is more analyst than promoter or vice versa. If you think the person is more analyst than promoter you score 0 to 10 depending on how strong you think the analyst characteristic is, or if more promoter than analyst then 0 to -10.

When you've assessed both axes, you mark the person's position on the grid. That will usually put them into one of the four quadrants, but occasionally on a line between quadrants where one or both of the scores was zero.

The model is useful when you come to select staff for particular project work because people in the same quadrant will normally get on very co-operatively and come to agreement fairly easily. People in opposing quadrants will usually come into conflict and will argue. You can imagine someone who is painstakingly analytical coming into conflict with someone who acts very intuitively and does things on impulse with no time spent looking at the evidence.

Please note that the conflict here is not something negative. It isn't destructive conflict – a different thing altogether that you must take prompt action to stop – but different views which can be extraordinarily valuable. The promoter who acts intuitively will sometimes come up with highly creative and unusual solutions that the analyst would never have found as they dig deep down into the data. And this isn't to knock analysts here either because my own score is high on that side. I maintain that it's obvious to any reasonable and even half-intelligent person that analysis is much, much more important; just look at all the evidence from when people have jumped to the wrong conclusion precisely because they haven't investigated the facts properly and taken the trouble to think. You might just disagree with that view though . . . if you have a high promoter score that is. If you have a strong analyst score you'll have thought 'Nick's right you know.'

Building in or avoiding team conflict

If you want an unimportant matter decided quickly then don't put two people onto the job who are from opposing quadrants in the model in Figure 13-2. They will argue and take far too long to complete the simple job. Instead choose people from the same quadrant because they're much more likely to agree quickly.

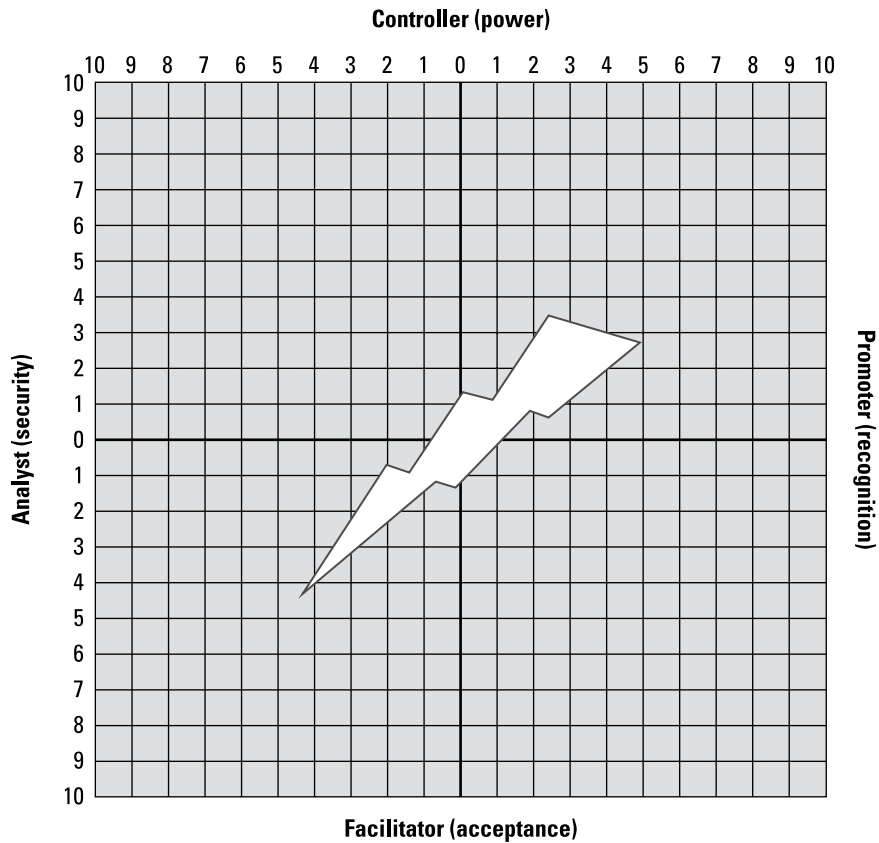


FIGURE 13-2:
The Controller–
Analyst Matrix.

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On the other hand, if you have a complex and difficult area to resolve, don't put people onto the job who are from the same quadrant as they will usually agree too easily. Instead put on people from opposing quadrants because they will go deep into the matter as they resolve their opposing views.

Using the model on the fly

As noted earlier in the chapter for the Venn diagram, simple models are particularly useful because you can hold them in your head. If you hear two people coming into conflict on a team and arguing, it can help to get to the root of the matter quickly by thinking about the quadrants. You think to yourself, 'Ah yes, this isn't necessarily negative conflict. It's just that they're from opposing quadrants in the Controller–Analyst Matrix'.



TIP

There are formal assessment devices for finding out someone's team characteristics. The downside is that they are much more complex than the Controller–Analyst Matrix. They're valuable though and a very popular assessment is the one produced by Dr Meredith Belbin and which covers nine different characteristics. Search online for 'Belbin team roles' if you'd like to know more about it. It uses some terms that you might find strange at first such as *resource investigators* and *completer finishers* but they become clear as you understand more of the approach.

Thinking About Suitable Team Members

As you select people for the project, if you're able to do that, and then for particular work within it there a number of things to bear in mind. For more detail in the context of resource planning have a look at Chapter 7, but here are a few things to consider as you think particularly about teams.

- » **Best for the job:** Is the person or team that you are considering the best choice for the job? Sometimes it's more advantageous to delay the project until the best people are available rather than rush into the project with whoever happens to be free and then deliver very late because those staff were unsuitable and got everything wrong.
- » **Availability:** Check whether the people you want are available to do the work. It's no good having staff on the project who are very willing to help and express great enthusiasm, but then let you down because actually they're far too busy already doing other stuff. Within the project, watch your resource plan carefully as it develops and keep resource levelling in mind. Have look at Chapter 6 to find more on resource levelling where you make sure that someone's workload stays within the limit of their availability.
- » **Team position:** Think how each person will fit into the team, unless the nature of the work means that they will be working pretty much on their own anyway. Are they the sort that will work co-operatively with others or do they put everyone's backs up and drag down team performance? Think where they fit on the Controller–Analyst Matrix and how that compares with other team members you have in mind.
- » **Performance:** If you know someone works very productively with particular other people, or perhaps just one other person, try to allocate them to work with that group. That allocation will benefit them, but also benefit the project. There's more on this point in the next section.

Considering Performance

Okay, to deliver the project reliably you're going to need a team that's performing well, and often more than one team. To know what you're aiming for in achieving good team performance, it helps to understand the progression. This section is where 'the whole is greater than the sum of its parts' comes in, as touched on in the introduction to this chapter.

Identifying the performance progression

One sequence that you may find helpful to understand the progression to team working is set down in the following bullet list. Stephen Covey covers this progression in his book *The 7 Habits of Highly Effective People* (Simon and Shuster, 1989), but others have used it too.

- » **Dependence:** Someone can't do anything much on their own. I always think of what it's like when you start a new job in a new organisation. You can't even find your way to the stationery cupboard without asking someone.
- » **Independence:** I know what I'm doing now. I can get on with stuff by myself without having to keep asking people for help.
- » **Inter-dependence:** The start of teamwork; I work with others. They can do what I can't do and I can do what they can't do. We are dependent on each other to get the whole job done.
- » **Synergy:** Where people 'click' and work extraordinarily well together achieving high quality and exceptionally high levels of performance.

There's a problem with buzzwords. The problem is that everyone uses them for a while, before they tire of them and the words go out of fashion. If you now use the buzzword, you give the impression that you're behind the times. That's okay unless the buzzword had something useful behind it, and unfortunately that was the case when 'synergy' went out of fashion as a buzzword. *Synergy* is extremely significant and if you've experienced it you'll know. Sometimes you just get on extremely well with one or more people and you work extraordinarily well together. It's been described as being like a military jet aircraft when the pilot switches on the after-burner and the aeroplane shoots forwards with incredible power.

I have had the privilege of working with two people in particular where we had synergy. Not only did we get through considerably more than twice what we could achieve alone in the same time, it was also of very high quality because we bounced off each other, each coming up with things the other hadn't thought of, with the

other person developing it in ways that the first person hadn't considered. It was incredibly enjoyable working like that.

Monitoring performance

You *have* to measure and monitor how people perform on the project. This isn't *big-brother* style snooping to tell people off if they aren't giving 110 per cent but rather it's simple management logic. The estimates in your plan are based on people producing things in a given time. If they don't, not only do you have to recast your plan to take account of the different timing on that bit of the work, but also to consider the implications for the remaining work in the project and your final delivery.

The use of time sheets is covered in Chapter 15 in the context of project control, but the point to bear in mind in the context of this chapter on teams is the human side. If you're in an organisation that doesn't already use time sheets, asking for them may well give rise to big-brother suspicions. You can reduce, or even avoid, such problems quite simply by explaining to staff why you need time sheet information and why you need it to be accurate. You also explain that you expect some things to take a bit longer than planned and some less time because estimates are exactly that – estimates. The whole monitoring process will get easier as team members see that you do indeed use the data only in the way that you said you would, so be ultra-careful to ensure that you do.

Maximising performance

Your project will deliver on time, or even earlier, if the people working on it are performing really well. Part of high performance is to do with compatibility as discussed earlier in the chapter, but keep an eye out for other factors too.

Here are a few things to help you build highly productive project teams:

- » **Understanding:** Make sure that teams and individuals understand how their work fits into the project and why it's important. You can do that with a project-wide meeting at the start of each project stage to explain what work will be covered in the stage and how it all fits together.
- » **Environment:** Ensure that teams have a good working environment, and push for better conditions if the environment is a poor one. That might mean relocating a team to a different place or improving their current environment with better furniture and décor. Poor environments reduce performance, so it's a good investment to have a good workplace.

- » **Training:** Do the staff have sufficient knowledge and skill to work really well? Consider some additional training if not, and build that into your project plan or get it covered up-front of the project. The management specialist Fred Herzberg (1923–2000) wisely commented that you can't motivate someone to perform well in something that they can't do. Herzberg pointed out that training is one of the most valuable things in the management arsenal.
- » **Equipment:** Check that the teams have the equipment and facilities that they need to do a good and timely job. That may be team rooms, engineering equipment or just things like a good-sized whiteboard and a supply of decent whiteboard pens.
- » **P&Q:** Make sure that teams have *P&Q* – peace and quiet. Hassled conditions will lead to poor work and lots of mistakes which then take up even more time as those mistakes are corrected.



The previous bullet list warned about a hassled environment bringing down team performance. Think about interruptions and not just noise when considering the team environment. It isn't just people having animated phone conversations in the office, breaking the concentration of others, but staff constantly being called away from the project to deal with operational matters. You know yourself that if you are interrupted you don't just lose the time of the interruption itself. When you get back to the task it usually takes you a while to pick up the threads and get back to where you were before.

Working with Senior Staff

If you're a Project Manager then in many cases you will be senior in the organisation to those working on your project. In that situation you have a natural authority because of the recognition your own organisation gives you. But projects are strange beasts and need all sorts of different staff and that can include some senior ones, and sometimes very senior ones. Perhaps the project involves changes to organisational policy for example requiring some top managers to take part, or there are extensive areas of legal compliance and one of your company's senior lawyers must be on a project team.

There are a few things to say about this situation that may make your life a bit easier if you are feeling nervous about controlling the work of people who are senior to you in the organisation. You're more likely to be nervous if you are relatively young and fairly new to the organisation and they've been there forever and are . . . well, perhaps a bit more mature in years.

Being secure in your role

As Project Manager, be secure in your role. You don't have to defend your authority, so relax. The UK military has some really well-thought-out approaches when it comes to its operations and this next example is drawn from Chinook helicopters that are used to move people, including very senior officers, as well as equipment. Every helicopter has a notice inside saying that the pilot is in charge of the aircraft. It says that everyone on-board the helicopter must obey orders from the pilot, no matter how senior they are. That's a good illustration for projects. Someone has to co-ordinate the project and keep the overview no matter who is working on the teams and how senior those people happen to be.

Calling in the heavy guns

Most senior staff on projects are very reasonable and on-side, even in command-and-control organisations such as police forces where rank is seen as something very important. Sadly, however, there are exceptions and not quite all senior staff are reasonable. If someone is very aware of their grade and proves difficult to deal with, the best advice is to keep focused on your role and deal calmly, politely but firmly with facts. Don't get side-tracked onto debating who is in charge and who should give instructions to who, but rather just explain your role.



TIP

The word *co-ordinate* is a useful one. Some senior staff don't like the idea of being managed by someone more junior and will react strongly against the merest suggestion of it. But they can see that to be successful the project must be co-ordinated. So if you explain your role in terms of co-ordinating the work you may find that you reduce any resistance.

If a senior staff member on one of your teams becomes just too awkward to work with then call in the heavy guns and have a word with the project Sponsor to explain the problem. The Sponsor can then deal with that manager and point out that you have been appointed as Project Manager and are working with the full authority of the Project Steering Group in general and the Sponsor in particular. Use the Sponsor route sparingly though. It's much better to convince a senior manager that you are just doing your job of co-ordinating and getting them to see the logic of that. If you get a senior manager 'jumped on' by the Sponsor, or worse if the Sponsor has to go even higher in the organisation to get that senior manager jumped on, it can lead to personal resentment not just during the project but lasting long after it. However, sometimes the jumping is entirely necessary in order to get the job done (the overlap between 'the project' and 'the individual' circles in Figure 13-1) and you'll just have to live with the consequences. Nobody said that being a Project Manager would be an easy life.

Working with Technical Specialists

Life can get rather interesting if you have technical specialists such as engineers in your project. Again, I have the T-shirt here as I used to work in an organisation alongside radio engineers, and I'm a million miles away from being a radio engineer myself. Two main problems can occur where you have technical specialists involved. First, you don't fully understand what they're doing or even what they're talking about. Second, the technical staff can look down on you as a 'non-technical, office-bound person'. Some may think that you don't have the knowledge needed to run the project and so won't be as cooperative as you might have wished. Actually it can get worse than that. Some may try to confuse you by using technical language that they know you won't understand, and then even lead you into saying and doing things that are wrong and which will then demonstrate your technical illiteracy. That's not necessarily vindictive; they just think it's good sport.

Don't despair, you can still manage the project and this section is to give some help on how you can do that. Remember that your role and skills are in the area of project management, not radio engineering or any other technical specialism. You can function well, and actually extremely well, in your project management role despite what your initial misgivings may be.



TIP

Unless you have encyclopaedic knowledge of every subject under the sun, sooner or later you will project manage people who are doing things that you can't. I once had a person on a project training course who said 'I couldn't manage a project where I couldn't personally do the work of every team member.' My response was 'You won't manage many projects then.'

Finding a translator

When dealing with a technical area that you don't fully understand, try and find a translator either inside the project or outside it. When working with radio, one person I used to head for when I had a problem was a great guy called Bob Malyon. When I asked Bob a technical question I wouldn't usually get an answer at first. Instead Bob would ask me questions. When he had worked out my level of understanding in that area he'd answer the question in a way that I could understand. He wouldn't talk over my head, but neither would he talk down to me; brilliant. If you can find someone like Bob who can 'translate' technical complexity into something that you can understand sufficiently for your project management task then that's a massive help.

Admitting your ignorance

Probably the biggest mistake you can make when managing a technical project is pretending you know things that you don't. Don't be ashamed of not knowing something, no matter how basic a technical specialist suggests that is. If you try to cover up by pretending that you understand in some vain hope that you won't appear so ignorant then it will backfire on you sooner or later, and probably sooner.

Radio engineer: Well of course the spurious emissions are already going to be significant, particularly on the fifth and seventh harmonics up in the 100 Megahertz band. Now you wouldn't want us to increase them by agreeing this user change request for a centre-mounted loading coil on the antenna instead of a base-mounted one would you?

You (wrong answer): Er, no, I suppose not. I guess we can never be too careful when it comes to spare omissions.

Radio engineer: (No words, but you detect a slight smirk and get the impression that they can't wait to go and tell the other team members what you just said.)

You (right answer): Sorry, you're going to have to explain that. What's a spurious emission?

Radio engineer: Good grief, you don't even know what a spurious emission is?

You: No, actually I don't. Please would you explain?

Being on-side

It helps to win over engineers and other technical specialists if you show that you're on-side. You can show genuine respect for them and what they're doing without playing down your own skills in project management. Also make it clear that you are there to support them and as part of that make sure that your technical staff have the things that they need to do a good job. Then visit regularly to keep in touch and see what things are like from the specialists' point of view. When the specialists see that you're not trying to play at being an engineer but are working hard to drive the project through to a successful conclusion in a way that's co-operative and professional then you'll gain their respect, albeit grudging respect in the case of one or two of the more hard-bitten ones. Be prepared for that acceptance to take a bit of time and don't get discouraged if you seem to make little headway at first; it won't happen overnight.

Working with Supplier Teams

Your project team or teams may be from within your own organisation, but sometimes you may also have one or more teams from outside suppliers. Remember that if you have teams working on your project but they're from outside your own organisation, they're nevertheless inside your project. The way that some UK organisations work with suppliers is more than worrying, and to read the way many contracts are set up you'd be forgiven for thinking that the suppliers are the enemy.

Supporting supplier staff

Some projects give very little help or support to supplier staff and then fast-forward to an aggressive position, invoking clauses in the contract if those staff don't do so well. Poor work from suppliers cannot be excused for a single moment, but a key point here is that supplier staff in the project need support too. To help hammer the point home, have a look at this quotation from the American space agency NASA's 'One Hundred Rules for NASA Project Managers':

In award fee situations, the government personnel should be making every effort possible to make sure the contractor gets a high score (for example, be on schedule and produce good work). Contractors don't fail, NASA does and that is why one must be proactive in support.

So, the supplier staff don't fail, you do. It's in your interest to help staff from outside suppliers as well those from your own organisation because if the suppliers succeed, you succeed. Obvious really, but you wouldn't think so when you look at some projects.



WARNING

Where you need outside staff or products, you need good supplier companies. Beware of accountants and contracts staff who don't understand projects and who assure you that it's okay to go with the cheapest possible supplier because they'll 'protect' the project with a penalty clause in the contract. If the supplier messes up, they tell you, then your organisation will hit them with a penalty, usually financial. This is a problem because for a start, under UK law for example, you can't have penalty clauses as such, only liquidated damages. That means that if things go wrong you'll be awarded money in line with what the court (not you) thinks is the extent of the damage you've suffered. However, if you have such a clause you'd better not need to invoke it because if you do, you just lost. If you invoke the clause that means you didn't get what you wanted. You may now get your money back, but if you wanted the money you wouldn't have gone out for the supply in the first place. You wanted the supply item or service and now you

haven't got it and the resulting damage to the project may be considerable. So much for the penalty clause 'protecting' the project then.

Choosing suppliers carefully

If your project needs external supplier resource, your success will partly depend on those staff, so it pays to choose your suppliers carefully. Suppliers need to make money to stay in business, so of course they pay attention to making a profit on the job. However, the dangers come when suppliers are concerned only about making a profit. This problem isn't restricted to large consultancy companies, but it's certainly very visible in some of them when their staff are more focused on 'selling in' more days to their clients rather than on their client's project. Strangely, although smaller suppliers also need to watch their profit margins they're often more focused on the client because each client is proportionately more important to them, rather than just being 'an account' – a line item in a monthly sales target. You need external suppliers who, while making a fair profit, will do their very best on the project and integrate well with other project staff.

Thinking 'time', not just 'initial cost'

When selecting external suppliers, think carefully about how much you are willing to pay. If two suppliers can both do a job to a given level of quality should you go for the one whose bid is the cheapest? Most contracts departments and organisational supply procedures will insist 'yes'. However, project mathematics is often a bit strange, and nowhere more than here. Suppose one supplier can do the job over a three month period for £100,000, and another can do the same job in two months for £200,000, which is the cheapest? Well, if your project is due to save £500,000 a month after it's finished, and using the second supplier means you'll get to the point of delivery a month earlier, the mathematics shows that the more expensive supplier is actually £400,000 cheaper. But that's only if you see the work in its full business context rather than in the narrow confines of the bid. If the staff in your organisation who set up contracts are used to normal procurement and not projects, you may need to sit them down and explain the bigger picture rather s-l-o-w-l-y!

Dealing With Discipline

So far in this chapter, the emphasis has been on getting people to work well together and to deliver successfully. Happily that's what projects are about and just about everyone wants to do well, both for their own satisfaction and to be part

of a successful project. It wouldn't be fair though not to say something about the instances where someone isn't working well or is causing a problem in one way or another.

Sometimes a team member just doesn't work well. You can't and mustn't simply accept that. If you accept poor work from one person, you'll just indicate to everyone else on the project that the work doesn't matter. If you do encounter a performance problem you must react, investigate and then do something about it.

Maintaining some distance

It's not easy being any sort of manager, and that includes being a Project Manager. On the one hand you want to work alongside your staff but on the other you sometimes have to take tough action and that's difficult or bordering on impossible if you are too close. It's a balancing act and hard to get right at first. If you're soft-hearted, it's all too easy to err on the side of wanting to be everybody's friend. It is 'erring' though because you can't exercise discipline if someone does something that's out of line and you're their friend. Indeed, some may even take liberties because you're their friend and that can bring your project under pressure. Don't forget the Venn diagram shown in Figure 13-1 and your responsibility to get the job done.

On the other hand, don't fly to the other extreme and become some cold and distant manager that nobody enjoys working with. Of course you can be human and friendly, but at the same time you will never be able to be fully 'one of the gang'. If you do, you'll be in danger of losing vital management control and once it's lost you'll be unable to regain it.

Owning the problem

If you're a Team Leader or a Project Manager and someone has reported a problem to you, such as another team member performing poorly or coming in late every day, you must take ownership of the problem. Suppose, for example, Mary complains that Mike doesn't get into the office until 10.30 a.m. every day, when he's supposed to be there at 8.45 a.m. Don't march straight up to Mike and demand an explanation. He's bound to ask how you know and when you say 'Mary told me' you now have a split between Mike and Mary and it may become a matter of his word against hers. Instead, find a reason to be in the vicinity of the team room just before 10.30 for the next couple of days. Then you can go up to Mike and say 'I've noticed . . .'. Now it's your problem; you've taken ownership of it and there is no need to mention Mary at all. Equally you can find a reason to ask Mike about the work, if his performance is poor, and ask your own questions about it falling

behind. Again, it's now your problem and can't be evaded as 'another team member has got it in for me and is making up stories'.

Avoiding jumping to conclusions

Not all problems are the person's fault; well, not exactly. Continuing the example from the last paragraph, perhaps Mike is coming in late every day because his partner is ill and Mike has to take their child to nursery school before work. Your reaction is going to be very different than if the reason is that Mike is out partying every night and is coming in late to work – and tired – because he isn't getting to bed until 5 a.m. If the cause is that his partner is ill, you will have more understanding but will still need to tell Mike that he should have told you about the problem not just turn up late.

You might now agree with Mike that he can continue to come in late for the rest of this week, by which time his partner is expected to have recovered. However, again taking ownership, you should tell the team. You might say 'I'm sorry to say that Mike's partner is ill at the moment. I've agreed with him that he can come in at 10.30 for the rest of this week and make up the time later in the month. If you need to talk to Mike about any part of the work, please note that he won't be around until 10.30 and if that makes a problem for you, please come and have a word with me.'

Resolving problems – or trying to

An amicable solution is the best outcome. If the person has done something wrong, apologises and puts things right, then there's no problem with them continuing on the project. If that's the case, once you've seen that they have indeed mended their ways, find some reason to commend them for what they're doing so that they can see that you've put the past behind you.

I once had a member of staff on a project who was untruthful about a test. A computer system failed on installation on something that was supposed to have been tested and signed off. I called in the team member involved and asked why, if this had been tested and signed off as correct, it had now gone wrong. The team member said 'I didn't test it.' He'd been under pressure and signed the test document without actually doing the test. The guy was a really good team member and I just said quietly 'Don't ever do that again.' The error was corrected and the system was installed. The team member never did sign off a test again without doing it and a good relationship was maintained in which I continued to respect the skill and huge value of that particular team member both on that project and a later one.

Treading the disciplinary trail

If someone is acting wrongly then you need to take action, unpleasant though you may find that. It is the downside of being a manager, and as a Team Leader or a Project Manager it comes with the territory.



WARNING

If you are starting down the disciplinary path, be extremely careful to follow your organisation's policy for this and do it to the letter. Involve the Sponsor and perhaps your Personnel (or Human Resources) Department too. You must do things exactly correctly both for the action to be effective and so that you don't come under fire for not acting correctly. If the person involved is seconded to the project from another department, you'll also need to involve the relevant line manager from that department.

Changing Staff

Sometimes a problem with performance is simply due to the fact that the team member isn't suited to the job. You, or someone else, made a mistake in putting them on the project or they were a trainee and things just haven't worked out. In that case you need to talk to the Project Supplier on the PSG and get the person replaced. It isn't that team member's fault that they weren't suitable and you can do a lot to soften the blow by explaining to them that they need to find a place in the organisation where they can excel.



REMEMBER

Earlier in the chapter there was a section about people being different. Not everyone is suited to every task, so don't feel too bad where you need to take someone off a task or off the project. Actually, it satisfies all three circles on the Venn diagram in Figure 13-1. It's not in that person's best interests to keep working at something where they are bound to fail. It's not in the team's best interest to have someone who they have to 'carry' and make good weaknesses and mistakes. And finally, neither is it in the best interests of the project and getting the job done on time and to the right level of quality.

- » Being a leader as well as a manager
- » Knowing what makes for a good or bad manager
- » Understanding motivation and demotivation
- » Knowing how your teams are really doing, not just reading reports

Chapter **14**

Being an Effective Leader

After intense work, you submit your Outline Charter (the document that includes the scope of the proposed project and other strategic information such as the initial Business Case; see Chapter 2) for review and approval. A few days later, your boss comes to you and says:

'I have some good news and some bad news. Which would you like to hear first?'

'Tell me the good news,' you respond.

'Your Outline Charter's been approved.'

'So, what's the bad news?' you ask.

'Now you have to do the project!'

Suddenly, it's like everything flashes from two dimensions to three and gets very real. Now you'll be working with others, and perhaps a lot of others, and so *your* success from this point on will depend on *their* success from this point on! You move from being just a planner to a leader.



Team members –with a very few exceptions – want to do a good job, so you will be working with them not against them. You know yourself that you are most satisfied when you have achieved something and done it very well. Your team members feel the same, and there lies one of the keys to effective management: your team members are like you. Too many people go through a strange metamorphosis when they're appointed to a management position. Such managers think that they're now somehow different to and above everyone else, not just in grade. They go on to treat their staff in a way that they would have hated being treated themselves. The good news, of course, is that you don't have to be like that.

This chapter gives you some ideas about leadership in the context of a project and how to get the best out of your team. Doing so isn't just selfish either. Yes, good leadership helps you get your project delivered successfully, but if you do it right, then you also make team members' work enjoyable and allow them to develop and achieve.

Practising Management and Leadership

Managing is mostly concerned with controlling the work of others and yourself, but leadership throws in a whole new dimension. *Leadership* involves being in front and inspiring others, not just throwing work at them.



Make no mistake: if you're a Project Manager, leadership is a vital part of your role. You can do all of the planning you like, but if the teams don't work well, then you're going to have problems.

Understanding what makes a good leader

To be effective yourself, it helps to stand back a bit and analyse what makes someone a good leader and manager, and also what makes for a bad one. Although this section goes on to spell out the factors, you probably already know most if not all of them from your own experience of being managed.

Thinking back to your own managers

So, think back to those who've managed you. Who did you like working for? Who managed you so that you could give your very best, and what were the characteristics of their management styles? Then think about managers who weren't so good, who closed you down and made life difficult. What was it about those poor managers that made them poor? Have a look at the characteristics in the nearby sidebar 'Management characteristics', but you will almost certainly be able to add more. Faces will probably come to mind as you consider each characteristic.

‘How do I become a good manager?’ you might ask. On one level the answer’s easy. You emulate the things that you’ve seen in good managers and avoid the things that you’ve seen in bad managers. You know the things that helped you give your best, and when you really wanted to do that because you enjoyed what you did, and you also know the sorts of things that closed you down and made you want to give up and go home early.

MANAGEMENT CHARACTERISTICS

Good managers:

- Are cool headed and rational when problems crop up
- Are supportive and available
- Give opportunities and challenges
- Have a clear sense of direction and communicate objectives well
- Have a sense of proportion so minor problems aren’t treated as crises
- Plan well so their staff aren’t forever racing to meet unrealistic deadlines
- Recognise and show appreciation of good work and extra effort
- Respect their staff
- Trust and give responsibility
- Value the views of the staff, even if the manager finally disagrees sometimes

Bad managers:

- Are control freaks and micromanagers
- Are emotional, including regularly getting angry and having emotional highs and lows
- Are power hungry and play power games
- Don’t listen to their staff
- Focus on the task only – at the expense of the staff
- Find fault and apportion blame if things go wrong, and even if they don’t go wrong
- Take all the credit for achievements
- Pass off staff members’ good ideas as their own to more senior managers



Just as your managers have had a huge impact (positive and negative) on the volume and quality of your work in the past, so too you can expect to have a huge impact on the work of your staff.

Leading in the hard times too

Some people think that leadership is great and people will follow if you're going somewhere nice and the journey there will be pleasant. That's not true, however, and leaders can inspire people to follow them and endure even hardship. One of the best examples has to be Winston Churchill, who on being appointed Prime Minister in a time of war said to the House of Commons: 'We have before us an ordeal of the most grievous kind.' That statement was immediately preceded by his famous words, 'I would say to the House, as I said to those who have joined the Government: I have nothing to offer but blood, toil, tears and sweat.' Churchill was an inspiring leader, and although not many people are gifted to that extent, you can still provide good leadership on tough tasks as well as easier ones.

Leading those who are older or more senior than you

It can be difficult to lead if team members are senior to you in experience and also in age. It may help to remember that projects are all about roles. Your role is to manage. That doesn't mean that you're inferior or superior to any team member, just that your role is different. Chapter 13 has more on working with teams and includes advice for when you have people working on your project who are much more senior in the organisation than you.

One of the characteristics listed for good managers in the sidebar 'Management characteristics' is having respect for team members. You can respect someone's knowledge, age and experience, and indeed you should. But that doesn't mean you can't project-manage the person. You've been appointed to the post, so get on and manage with skill and confidence, irrespective of the seniority or otherwise of those on your teams.

Developing personal authority

To get a job done you need authority, and it will help you in the project if you think through just where that authority comes from. In turn, authority gives you a sense of personal power in the best sense. Not a power that rides roughshod over others, but a power that gives you a calm confidence. Some people have that naturally, the sort where other people look up when they enter a room. Others need to develop that air of leadership. Although this book is not primarily about management and leadership, the next two sections give you a couple of pointers that may help you with leadership within the project.

Seeing why people will do as you ask

The very title 'Project Manager' gives authority and everyone knows that the Project Manager has day-to-day responsibility for the project. A natural respect and compliance follows from Team Leaders and team members who can see from the project organisation structure, even if they haven't already realised, that they're accountable to you. Unless you give the teams reason to challenge that inbuilt authority, then you can expect it to stand. Reasons why the teams may challenge your authority are if you lead badly and give instructions that they can't follow, or if you incite them to rebellion! However, if you plan carefully, consult fully and are open to hearing views and ideas from your teams, then you're unlikely to be opposed in such a way.

Because personal power is the ability to influence and guide the actions of others, the first step is to understand why people choose to do what you ask in the first place. People respond to your requests and directions for many reasons, including the following:

- » **Rewards:** People do what you ask because they want the benefits you can give them. Examples of rewards include pay rises and recognition.
- » **Penalties:** People do what you ask because they *don't* want what you can give them. Examples of penalties include poor performance appraisals and negative feedback to line managers.
- » **Who you are:** People listen to you because they appreciate and respect who you are, as reflected by your sensitivity, your loyalty to others, your sense of humour and other positive characteristics of your attitudes and behaviours.
- » **Your expertise:** People listen to you because they respect the skills and knowledge that you bring to your job. They listen to you because they believe you're probably right.
- » **Your position:** People take your requests more seriously because they think the Project Manager should direct team members. You can lose this power if you behave inappropriately, but you have it initially.



REMEMBER

You don't have to be the technical expert on your project to command the respect of your team members and to lead your project effectively. But you do need to develop the skills and knowledge that your project management job demands. These skills and knowledge include your abilities to plan and control the project, communicate effectively and create a positive and productive work environment.

Of course, if you have expertise in the technical area covered by the project then this can be a significant asset if you use it correctly. Your praise for a job well done means a lot more to your team members than praise from someone who's less qualified to assess the work.



Being both the technical expert and the Project Manager on your project can work against you. If you're not careful, you can discourage others from accepting responsibility and performing their work independently. This may happen if they feel that they can't do the job as well as you used to do it when you were in their position, or if you want people to do the work in the way you would do it and they feel constrained.

Understanding the base of your authority

As the captain of the ship (see Chapter 12 on project organisation), you have initial authority on two grounds:

- » **Appointment:** Unless your project is very small and in your own area of work, more senior managers will have appointed you to the role of Project Manager. That appointment itself displays their confidence in you and reflects an authority within the organisation.
- » **Delegation:** This project is being run for the organisation, not your own ends, and was commissioned by a Sponsor or perhaps even a more senior group such as a management board. You're running the project on behalf of those who commissioned it, and therefore you have their authority, not just your own.

Both of these grounds add to your confidence in your position because you're backed by authority that is higher than your current position.

Knowing What Motivates and What Demotivates

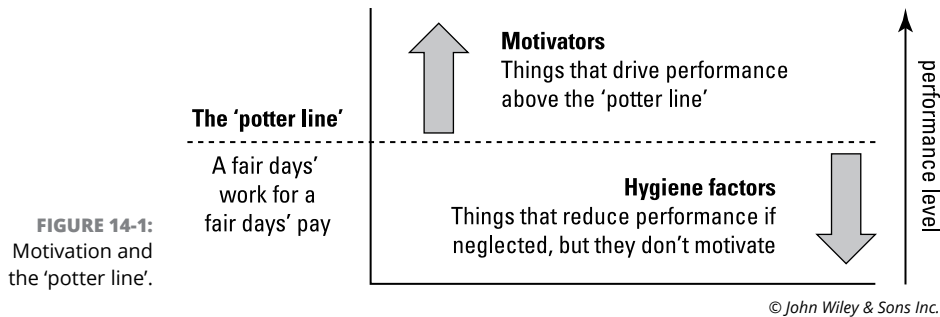
To have a healthy project that stays on schedule, you need motivated staff who will work well in terms of the quantity of work they do in a given period and the quality of it. Remember, if the quality is poor, that affects the project schedule as well as the end product, because of all the correction and re-testing. So what makes for good motivation on teams and within the project as a whole?

Taking a lesson from Fred Herzberg

There have been many books and theories on motivation over the years, but one of the simplest and most powerful models is from Fred Herzberg (1923–2000), an American psychologist who became a leading light in management practice. Fred

Herzberg's model is great for management, and is highly relevant for creating productive project teams. In passing, it's worth noting that Fred Herzberg may be unique in that apparently nobody has ever disagreed with his model.

Herzberg says that people will normally give an average performance – something he calls *the potter line*, as shown in Figure 14-1, where people potter along doing what they think is a fair day's work for a fair day's pay. Things like money, good working conditions and company cars, he argues, won't motivate people to give more than an average performance.



You may know yourself, if you have a company car, for example, that when you first got it you were delighted. But very quickly it became part of your normal environment and now you jump into the car and rarely think about when you didn't have it. It's the same with any pay rise you had a year ago – that level of pay has now become normal. Fred Herzberg called things like fair pay, good working conditions and company benefits *hygiene factors*.

Where Herzberg differs from many in management is where he says you can't neglect these hygiene factors or you drag performance down below the potter line. You need to have good working conditions for your teams, so fight hard to get them if you need to. Try to make sure that team members are paid properly for the work they do. However, important though these things are, they don't motivate.

Herzberg argues that the *motivators* are things like achievement, recognition, doing sensible and worthwhile work, having responsibility, moving on in a career with promotion, and having opportunity for personal growth. It's those things that make people, including you, perform above the potter line.

Clearly, then, if you want good team performance you need to build opportunities for achievement and personal growth into the way that you allocate your project work. If you always give someone boring, meaningless work that provides no interest or challenge, don't be surprised if your project performance indicators

show that person pottering along and not having the drive and productivity you're really looking for. If they're paid poorly and sitting on a broken chair in a drab, beaten-up office as well, you can confidently look forward to productivity well below the potter line.



TIP

Look out for interesting work that isn't on your project's critical path and so has some slack time (see Chapter 6 for full details on the critical path). This work is ideal for giving someone a new challenge, because if they take a bit longer than someone already experienced in the task, it won't damage the project schedule. If you do that you don't get win-win, but win-win-win! Your team members develop and they enjoy their work; they're more motivated overall, so you get better performance and the organisation gets staff with a wider skill set and more experience, which will benefit future projects. A secondary level of benefit is that your team members see that you're looking out for them, not just focusing on the project with no thought for them.

Understanding points of demotivation

Within any block of work you can spot predictable points of demotivation. Just like Herzberg's motivators in the previous section, this information is valuable indeed when planning work and can prevent real problems with team performance. Figure 14-2 shows a demotivation model, which has three elements:

- » Doing the work
- » Seeing the result
- » Getting recognition and also reward

A break between any of those three components leads to demotivation.

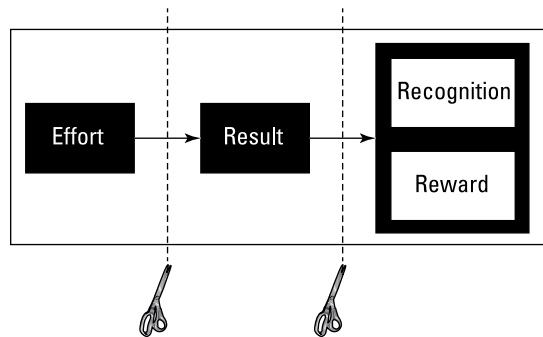


FIGURE 14-2:
Demotivation
model – source
unknown.

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Working hard but not seeing a result is demotivating. Taking the opposite perspective, a research scientist who keeps on experimenting but doesn't see any result for some years has to be very highly motivated to keep going. Or, someone puts in the effort, sees the result and then . . . nothing. Nobody notices and nobody offers any reward for all of that effort – that's demotivating and is highly likely to affect performance adversely on future tasks.



TIP

As a Project Manager you can do something about both break points and so do much to avoid demotivation. First, considering Herzberg's point in the last section about meaningful work, try to design tasks on your project so that team members see an end result. Then, when that result is forthcoming, give recognition and, if it's within your power, reward. In your leadership position you can at least recognise achievements, even if you can't influence reward. The earlier sidebar 'Management characteristics' listed recognising and showing appreciation of work and extra effort as attributes of a good manager.

Ensuring that others are on board

Other people may also play a role in your project's success, even though they may not officially be members of a project team. Two such groups fall within the stakeholder category (see Chapter 4 for more on stakeholder management), and you can think of them as *drivers* (people who have a say in defining the results of your project) and *supporters* (people who will perform a service or provide resources for your project).

Contact your stakeholders to:

- » Let them know that your project has been approved and when work will start.
- » Confirm your project's objectives.
- » Let them know, at regular intervals, about progress and achievements to date.
- » Confirm the resources you need from them, and the dates when you will need them. If there are slight changes (perhaps the project is a bit ahead of schedule), consult to see whether their provision of resource can be changed to be earlier too, so as to maintain the lead.
- » Confirm the project completion date as you get towards the end of the project, particularly if one or more of your stakeholders needs to make preparations for that.



TIP

Some people will be interested in your project but won't be actively involved. Identify these *observers*, as they're sometimes called – the individuals you want to keep informed of your progress throughout the project – and plan how you'll communicate with them.

Developing Your Teams

Merely assigning people to a task doesn't create a project team; it simply creates a group of people who happen to be working together. A *team* is a collection of people who are committed to common goals and who depend on one another to do their jobs and who share an identity and purpose. A loyalty develops where someone feels that if, for example, they don't do a job well then they let the team down, not just themselves. There's much more on teams and team performance in Chapter 13.

Just how much involvement you will have in creating effective teams depends on the nature and particularly the size of your project. If you're in a large project, you will have Team Leaders who are primarily responsible for the team-building aspects. However, even then, you have a role in establishing a project identity and encouraging Team Leaders in their team-building work. You may even get involved in assisting with the team-building such as by going along to give project briefings. If you do have Team Leaders, your leadership role must tread the normal careful path in management of being supportive and engaged on the one hand but not interfering or undermining Team Leader authority on the other. In a smaller project, you may be running the team, and in that case the team-building work falls entirely to you.

Defining your project procedures

When you create the Project Management Plan (PMP – see Chapter 2 for more on this), and the Communications Plan within it, you will develop the procedures that you and your teams use in the day-to-day work. The word 'procedures' may sound bureaucratic and something only relevant to big projects. The procedures for your project may be very simple though, and having them means that your staff will know how to communicate (such as to report a newly identified risk). In turn, that clarity will help avoid misunderstanding, communication breakdown and sometimes even conflict. At a minimum, develop procedures for the following:

» **Communication:** These processes involve sharing project-related information in writing and verbally. Communication procedures may include:

- How to address special issues that arise, such as on technical matters involved with the development
- What meetings and reports will be used to record and review progress, warn of problems and communicate suggestions and ideas
- When and how to document informal discussions
- How to share project information (for example, with e-mail)

- Which types of information should be in writing, and what can be reported or discussed verbally

» **Conflict resolution:** These processes involve resolving differences of opinion between teams and team members regarding project work. You can develop:

- A *standard approach* (normal steps that teams or team members take to find a solution)
- *Escalation procedures* (steps to take if the people involved can't readily resolve their differences)

» **Decision-making:** Develop guidelines for choosing the most appropriate approach for a situation, including consensus, majority rule, unanimous agreement and decision by technical expert.



TIP

Think long and very hard to keep written information to the minimum. Written communications all contribute to project overheads and also sap your team members' energies if they're forever having to complete project documentation instead of getting on with the job. Turn to Chapter 16 for more on the whole area of project communications.



WARNING

Your communications procedures should include how people involved in the project can report problems. Be very, very careful not to suppress such communications. Some (poor) managers regard talk of problems as staff being negative, or even disloyal. However, if a team member sees a problem and lets the team manager or you know about it, that is the very opposite of negativity and lack of loyalty. If you get told about a problem, you can examine it and do something about it. If you suppress such communications, even inadvertently with talk of 'being positive', you will end up with problems in your project that you don't know about – at least, you won't know about them until they have grown to the point of being project-threatening.

Helping your teams to function well

When team members trust each other, have confidence in each other's abilities, can count on each other's promises and communicate openly, they can devote all their efforts to performing their project work instead of spending time dealing with interpersonal frustrations. One approach to help teams achieve this high-performance level of functioning is guiding them through the following commonly used phases, as named by the person who came up with them, psychologist Bruce Tuckman:

» **Forming:** This phase involves meeting team members and discussing project objectives, work assignments and so forth. Share the Project Plan, introduce

people to each other, and discuss each person's background, organisational responsibilities and areas of expertise. Unless your project involves a lot of people, forming is something you may want to do project-wide, not just within each team.

» **Storming:** This stage involves raising and resolving personal conflicts about the project or other team members. As part of the storming stage, do the following:

- Encourage people to discuss any concerns they have about the Project Plan's feasibility, and be sure you address those concerns.
- Encourage people to discuss any reservations they may have about working in the team and with others in the team. For example, a junior team member may feel nervous being surrounded by highly qualified specialists who clearly know exactly what they're doing.
- Focus these discussions on ways that will help ensure successful task performance.



REMEMBER

You can initially speak privately with people about issues if they're uncomfortable about bringing them up in front of the entire team. Eventually, though, you must discuss their concerns with the entire team to achieve a sense of mutual honesty and trust.

» **Norming:** This stage involves developing the standards and operating guidelines that govern team members' behaviour. Encourage members to establish these team norms instead of relying on the procedures and practices they use in their functional areas. Examples of these norms include the following:

- **How people present and discuss different points of view:** Some people present points of view politely to the point of understating them, and others enthusiastically debate with their opponents to the point of appearing aggressive as they work to resolve points.
- **Participation in meetings:** Some people sit back and observe, and others actively participate and share their ideas. The norm will be to encourage active participation.
- **Timeliness of meeting attendance:** Some people always show up for meetings on time, but others are habitually 15 minutes late. Set the norm for this project, which of course will normally be that people show up on time, otherwise everyone's time is wasted.

» **Performing:** This stage involves doing project work, monitoring schedules and budgets, making necessary changes and keeping people informed.



REMEMBER

As you guide your team through these developmental stages, keep in mind the following guidelines:

- » **When new people join the project, you may need to address team functioning again.** This may be to explain the working of the project to incoming staff, or to build them into the team in some more direct way such as going through part or all of the team-building again. If you know that a significant number of people will be joining the project as it progresses, allow time for the team-building work in your plans.
- » **As the Project Manager, you need to keep tabs on how the teams feel they're performing.** Again, if you're working with Team Leaders then you may want to do this mostly through them by checking things out at a Team Leaders' meeting. But nothing is as good as a first-hand view, so schedule time to go and see how each team is getting on – adopt the MBWA style, which is *management by walking about*. You don't have to say much except to encourage and show interest, but you can observe.



WARNING

Be careful if you are considering hiring people to run team-building events for you. Some of these events will not help your team and will not help your project. Struggling to walk along a line of house bricks laid across the lawn of a nearby hotel may not have the team-building impact you hoped for as your project probably doesn't involve walking along lines of bricks. Taking the team out for a meal at the same hotel, getting everyone to introduce themselves, say what their hobbies are and say what their ambitions are for progressing in their career might do very much more to knit the team together (and at lower cost).

Stoking the Boilers

A key element of leadership and motivation is keeping your teams well motivated and encouraged throughout the project, not just building them up at the start. Particular points to watch out for aren't when things are very busy and lots of products are being delivered, but rather the quieter times when a lot of work is being done but there isn't much to show for it yet. That's an important time to go around encouraging and showing appreciation.



TIP

You may or may not have the authority to offer rewards for work well done, but you are always able to give recognition. To make sure that the recognition and rewards you offer are effective:

- » Be sure your acknowledgment and appreciation is honest and sincere
- » Be specific about the contribution that each team member has made
- » Respect the person's personal style and preferences when giving a reward (private or presentation; individual or team)



WARNING

Some people make it clear when they have done something well or completed a task early. Others may be quieter and just get on in the background. Be careful to notice quieter members of the project who may be doing a superb job but unobtrusively. It is bad for a team if a few people keep getting accolades for work done well while others who have done even better go unnoticed and unappreciated.

Letting people know how they're doing

Getting your team members to appreciate your project's value and feasibility helps you build initial enthusiasm. However, if the project lasts longer than a couple of weeks, the team's initial momentum can drop off without reinforcement from you.

As you work through the project, make sure that you show appreciation for the efforts your teams are making, and 'celebrate' achieving milestones by recognising them. On a key product delivery, make it clear that you have noticed. Your appreciation should be genuine for a job well done; be careful not to appear patronising or convey an impression that you didn't expect the team to be able to do it. Where the team pulled out all the stops to achieve a target, show that you have seen that and thank the team members involved. Earlier in this chapter was a motivation/demotivation model (Figure 14-2), and one of the breakpoints there was a lack of recognition.

In terms of overall progress, it helps enormously if team members can see how they are progressing through the work of the project. The Work Flow Diagram explained in Chapter 5 and, in the context of progress, Chapter 15 is a very real help.

Motivating people when they leave

In addition to giving recognition and reward when people are working on the project, you should also give it at the end of the project, or if someone leaves

part-way through (having completed their work). This is really sensible for three reasons:

- » **The team members deserve it.** They've been part of the project's success and deserve the recognition and reward that comes with that.
- » **Recognition makes it more likely that team members will welcome the opportunity to work with you again.** If you really build staff up as they leave, just imagine the positive attitude they'll have if they come into one of your future projects.
- » **You gain a reputation for being an appreciative manager.** That way even people who have never worked with you before will have a positive attitude when they join one of your future projects, and your initial work to build enthusiasm will be half done already.

Keeping your finger on the pulse

It's important to build a trusting relationship with your Team Leaders so that they know that you won't be undermining their authority as you go round to see what teams are doing. If you spot problems, take them to the Team Leader and be very careful not to start giving instructions to individual team members that run counter to what a Team Leader has said to do. With that normal management stance in place, you can then go and talk to individual team members without Team Leaders thinking that they're being bypassed or that their authority is being undermined.

Ongoing contact with individual team members does a lot to keep cohesion and a sense of belonging in a project, and avoids the Project Manager seeming to be some superior being who never comes near the real work of the project. But the communication is a two-way street. You can also keep your finger on the pulse and see for yourself how the teams are doing, which may or may not align with the hard data in the teams' progress reports.

4

Steering the Project to Success

IN THIS PART . . .

Monitor progress and spending accurately and efficiently. See how to manage changes to the project and its products – even substantial ones.

Identify the underlying causes of communication problems and tackle them at source with an effective plan which sets down who needs to know what and when.

Bring your project to an orderly end – whether it's at the point you originally intended or with an early closure – and evaluate your project's success, passing on valuable lessons to benefit future projects.

- » Monitoring progress against the plan
- » Checking up on spending against the plan
- » Making corrections to keep on track
- » Controlling change
- » Being open to bad news

Chapter **15**

Tracking Progress and Staying in Control

Having planned your project and started it off, you then need to keep your eye on the ball and keep it on track. All projects experience problems, but far too many Project Managers don't detect that things are off the plan until the deviation is severe. At that point it's much harder, and sometimes impossible, to put right. It's a bit like walking across some open moorland. If you go a couple of degrees off course and you detect this quickly, you need take only a few steps to get back on track. If you don't find out for several hours that you deviated by two degrees . . . well, you get the picture. When you run your project, you can be very sure of one thing: it won't go exactly to plan. That makes it all the more important to identify deviations from the plan promptly so that you can react quickly and make the necessary corrections.



Get in control: stay in control. As an example, a not-very-good set of managers were on a project board and were covering two projects running at the same time. They complained between themselves about the Project Manager on the first project. 'All we ever hear from that project is problem after problem after problem. The other Project Manager is just quietly getting on with it.' Guess which project got in on time, to budget and to the right level of quality! The second project didn't

even know it had problems until nearly the end. The Project Manager on the first project found the problems, took corrective action – consulting with the project board as necessary – and moved through to a successful delivery.

The really good news is that if you’ve followed the approach to planning set down in this book, you have an easy and particularly clear progress-monitoring tool available to you. Chapter 5 covers this rather different start to project planning, which is *product based*; it begins the plan with a focus on what’s to be *produced* or delivered. In turn, the product-based planning approach opens the door to very effective progress control.

In this chapter, look forward to see how you can track progress quickly and effectively, and look at your options when things don’t quite go to plan. You can also expect some very real help in controlling change in the project and avoiding that common project killer, scope creep. If you put into practice what you read in this chapter, you may not eliminate scope creep, but you’ll certainly go a long way towards it.

Understanding What Underpins Effective Progress Control

There are three key underpinning elements for effective progress control. Those key things are having a good plan, having clear and frequent milestones and then putting in place an effective progress-reporting mechanism. This section covers each element in turn.

Having a reliable plan

Knowing that projects just about always go off track could lead the less well informed – and organisational managers anxious for project teams to get on with the ‘real work’ – to think that it’s not worth spending much time on planning. In reality, the complete opposite is true. The fact that the project is going to go off plan means that the plan is even more important; in fact, planning is essential.

An analogy is with a large ship. When the ship sets out on a voyage, it has a sail plan that shows the planned course to the destination port. However, this course is the one route the ship is guaranteed not to follow. Winds and water currents will push the ship off course. However, the planned course is all the more important because that’s what the ship will constantly correct to in order to ensure that it arrives safely at its destination. So, too, with a project: you need a plan in order to exercise control and make corrections.

You need a plan, then, but not just any plan; it's got to be reliable. If the plan itself is unrealistic, incomplete and superficial, then clearly it's going to be next to useless for control. The plan isn't just some luxury that, in an ideal world, projects really should have if they have the time to create them. In addition to establishing what the project is about, when it will deliver and what it will cost, the plan is also fundamental to effective control.



REMEMBER

The plan must also be up to date, within a few days at least. If something is reported as off track, then you need to be able to assess the impact and work out your options. If you last updated the plan seven weeks ago, it isn't going to be a lot of help in planning where to go from here, because you won't know where 'here' is. Get into the discipline of updating your plan once a week with 'actuals' of what has been delivered, the timings of those deliveries and what resource, including staff time, has been expended.

Having clear and frequent milestones

To know for sure where you are, you need milestones – and it helps to have a lot of them. Having a lot of milestones means that you have a superb early warning system if things do start going off track. The deliverables or products in each stage form natural milestones and so provide an excellent foundation for progress control. Chapter 5 of this book, on product-based planning, advises you to have 15–30 defined products for the project, broken down into more detail in the Stage Plans to give 15–30 at the stage level of detail. (More on stages in Chapter 9.) The importance of having frequent milestones will become increasingly clear as you read on in this chapter.



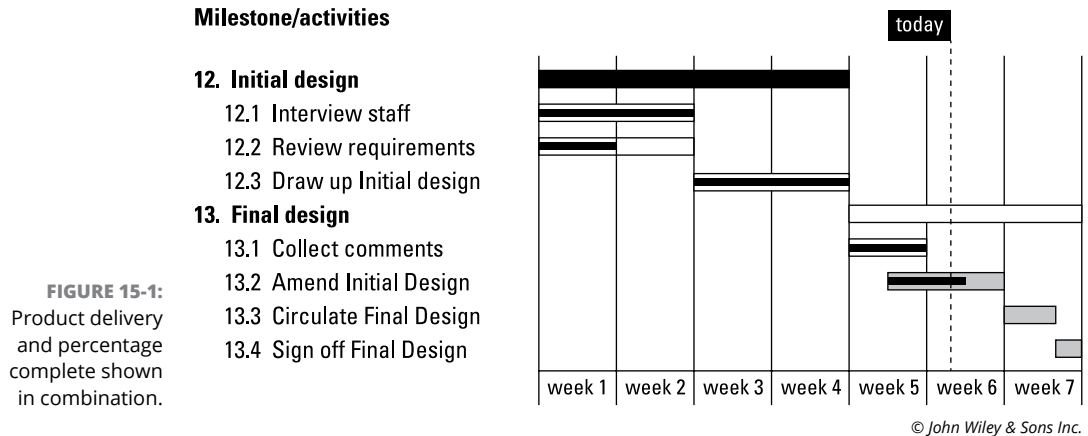
WARNING

Other sources of project advice have different things to say about milestones. One approach devised by a major management consultancy advises having four or five milestones in your project. Similarly, the manual of a well-known project method advises just using major products for milestones. If you come across that sort of advice, just smile to yourself, nod knowingly . . . and then ignore it. If you do only have a few milestones in the project, an awful lot can go wrong before you get to find out for sure where you are. You can only project-manage what's ahead of you. You can't project-manage what's behind: it's gone and it's too late. With frequent milestones, if something slips, you know quickly. With the approach set down in this book with products used as milestones, you also have the huge additional advantage that the control is very low overhead – virtually no extra work at all.

Where you are using a computer-based project management tool to maintain a Project Plan, it will almost certainly track progress using *percentage complete* for each activity. You'll see in Figure 15-1 that the percentage complete is shown with the solid bar in the middle of the activity bar filling up like a thermometer. So, with the project in Figure 15-1 it looks like things are a bit ahead, if you believe the

percentage complete. You can find more on percentage complete, including its drawbacks, later in the chapter.

When you do use a computer tool, you can use it in combination with having products as milestones. Figure 15-1 shows the products as numbered section headings, and the activities to build the products are grouped below each one.



Having an effective reporting mechanism

Clearly, you aren't going to have good progress control without an effective reporting mechanism accompanying it to show you when the project reaches milestones. If you aren't using products, despite the approach in this book, then you'll need regular estimates of progress from those doing the work. If you use products as milestones, then you need a mechanism to advise when products are *delivered* (completed by the team and handed over within the project) and so when the milestones are reached.



TECHNICAL
STUFF

A product is only *complete* when it's been quality checked and signed off. If a product hasn't passed all of its tests yet, it isn't complete.

Harnessing Product Power for Progress Control

The progress-tracking mechanism of percentage complete on activities does have some problems. The mechanism is known to be unreliable because it's usually based on an estimate. Using products as a progress measure avoids the problems

of estimation for progress reports. With products, progress isn't a matter of estimation but a matter of factual reporting. Which products are complete (quality checked and signed off) and which aren't? That gives you – and the Sponsor or Project Steering Group – an accurate, factual statement of exactly where you are in the stage and in the project.

Compiling a Work Checklist

A *Work Checklist*, sometimes known as a *Product Checklist*, is an extraordinarily simple device, but a very powerful one. It's just a list of products to be produced in a stage, together with the products' target delivery dates and then, when they are complete, their actual delivery dates. You can also add a column for the variance between the two. Table 15-1 gives an example.

TABLE 15-1 **The Work Checklist**

Work Checklist – Stage 6 – Position at 7 July			
Product	Target Delivery	Actual Delivery	Days +/-
Inner gears	12 June	15 June	-3
Power and fuse housing	20 June	20 June	0
Feeder tubes	3 July	3 July	0
Control panel	8 July	6 July	+2
Conveyor mechanism	12 July		
Assembled rotor unit	20 July		

Even if, surprisingly, you don't have intimate engineering knowledge of inner gears or rotor units, you can nevertheless see at a glance where this stage is. The checklist shows clearly what has been delivered, when, and how the date compares with that on the plan. At the moment, things are looking good because it seems the work is a couple of days ahead after being a bit behind plan at the start of the stage. Remember, a completed product is one that has been quality checked and signed off, so with the Work Checklist you know that products have been confirmed as meeting their specified quality requirements; it's not that they have been thrown together with essential tests left undone, in order to meet a target date.



TIP

Most experienced Project Managers agree that the first sign of trouble on a project isn't overspending, as many assume, but rather slippage on delivery. The Work Checklist puts the focus on delivery, not activity.

Getting visual with the Work Flow Diagram

Chapter 5 on product planning shows how to create an extremely useful diagram, the Work Flow Diagram. You can use this diagram in all sorts of ways in the project, but it's relevant here because you can adapt it to form a very simple and highly visual progress report. Flip back to Chapter 5 and have a look at Figure 5-5 to see an example of the Work Flow Diagram showing the product status with shading.

Now you've seen the Work Checklist and the progress-annotated Work Flow Diagram, you can fully understand why frequent milestones are a great idea and why all products should be milestones. It isn't onerous jotting down the date of delivery of a product and altering the colour of its symbol on the Work Flow, and in return you have extraordinarily precise progress-tracking information based on factual reporting of products states (not-complete or complete), not on someone's guess of percentage complete on an activity.

Monitoring at project, stage and Work Package levels

Monitoring and reporting progress is often at stage level. However, sometimes project Sponsors, other Project Steering Group (PSG) members and others in the organisation such as a management board like to see project-level progress – the big picture. That's no problem, and you can colour-code the Work Flow Diagram in the project-level plan as well as the stage-level diagrams.

Equally, if a team is working on a complex *Work Package* – a work assignment to build a product or a group of related products – the Team Leader may well have drawn up a more detailed plan. If there is a lower-level Work Flow Diagram, this too can be used for progress monitoring where the Project Manager is keeping tabs on the progress of individual Work Packages.

Taking Action When Things Go Off Track

Projects are always going into the unknown to some extent so, as mentioned at the start of the chapter, you can almost guarantee that your project won't go exactly the way you thought. So, that's some important good news! If your project doesn't go exactly to plan, don't panic: it's normal.



TIP

When the project does go off track, you need to follow these five steps:

1. Find out why the project isn't going to plan.
2. Look at all the things you could do to bring the project back on track.
3. Decide which action or actions you're going to take.
4. Take the action you have decided on.
5. Monitor to see whether the actions are working. If the steps are not working, go back to step 1 to find out why, and then follow the other steps through again.

The rest of this section will explore these steps in more detail.



WARNING

In a panic, Project Managers often leave out the first two steps and jump into step 3, but that's a big mistake. It's all too easy to rush into an action when actually that action isn't the easiest, cheapest or most effective. Knee-jerk reactions are rarely the best ones when dealing with project problems. Also, many fail to do step 5; make sure that you do it.

Finding out why the project is off track

When you hit a problem, first look for the underlying causes and try to understand the characteristics of the problem. This may well involve talking to a Team Leader or two and perhaps some team members and external supplier specialists. In the case of a problem affecting the overall running of the project, perhaps it would be good to have an informal chat with the Sponsor or one or two of the other members of the PSG as well.

It's only when you properly understand both the characteristics and the causes of deviations from the plan that you can come up with sensible corrective actions.



REMEMBER

If your project goes off track, it probably isn't anybody's fault. It's simply that the project isn't going in exactly the same way as you anticipated on the plan. You need your team members on board to keep the project momentum going and probably to help solve the problem. If you're disappointed – or even worried – about a problem, try not to translate that into a negative approach to your team.

When you analyse a problem to identify the causes and understand its characteristics, consider the following (they're in no particular order):

- » Is the project going off track or is it that the project is 'right' and it's the plan that's 'wrong'. In other words, is the plan unrealistic? You may need to adjust the plans for the rest of the project in the light of this experience.

- » Is this a problem with planned work, or has extra necessary work been discovered that wasn't anticipated on the plan? This problem is made less likely if you have done the 'bottom up' checks on the Work Flow Diagram described in Chapter 5. The problem is more likely if you have only done activity planning (see Chapter 6).
- » Is there a problem because the work requires more effort than expected, or is the work estimate right and the problem is that the team members haven't been able to put in the planned time? For example, have team members been called away repeatedly to do unforeseen operational, non-project, work?
- » Are the team members going more slowly than expected because of unfamiliarity and inexperience? Would it help to ask for more experienced staff, or would the learning curve of new staff getting to understand the project only make things worse still?
- » Have the teams been held up because necessary equipment isn't available or is not working properly? For example, have delays in other projects held up the release of equipment needed for this one?
- » Is the problem because something is more complicated than anticipated? Does that mean that other products will also be more complicated?
- » Is this deviation from what you expected a one-off that affects only this part of the work? Or is it the first sign that everything is going to take a shorter or longer time than you anticipated; in other words, are the estimates overstated or understated through the whole of the project?
- » Is the cause of the problem something you can control or is it, by its very nature, outside your control, such as higher than normal sickness levels due to a particularly nasty bug circulating?
- » Is the activity on a critical path? Delayed activities on a critical path will delay your overall project schedule (see Chapter 6 for explanation of the critical path). If the activity is on the critical path, you'll need to take more extensive control action than if it has spare time that can absorb some or all of the delay.
- » Is the activity on a path that's close to being critical? Activities on non-critical paths can have some delays before their paths become critical. The maximum delay for non-critical activities is called *float* (see Chapter 6). If an activity's float is very short, a small delay can cause that path to go critical.
- » Has the work already been identified as involving risk? If so, have you got some management actions planned already and set down in your Risk Log? (See Chapter 10 for more on the Risk Log.)
- » Have you already encountered problems with this activity? Unless new factors have arisen, the recurring problem suggests that previous control actions aren't proving adequate.

Thinking about what you can do to get back on track

It's important to 'think wide' when considering possible actions to get a project back on track. A common knee-jerk reaction is to throw more staff resource or money at the problem, but that isn't always the best thing to do. Indeed, for some problems putting more people onto the work just makes matters worse.

A great help is to bring in the Team Leader and possibly team members to talk about the problem. It's often the case that team members themselves can see solutions, especially if they're technical experts and have 'been there, done it and got the T-shirt'.



REMEMBER

One course of action that you may identify is . . . do nothing! Don't forget that you have the plan available to you, so don't fall into the trap of trying to decide what to do about something without having the plan in front of you. If something has taken a week longer than expected so far, and the team now anticipates that it will finally be delivered two weeks late, you may just say 'fine'. Your plan shows that the team isn't working on anything else in the two weeks, you have three weeks' float on the activity, and you're currently below budget – so you can be cool about it and absorb the overrun without any action.



TIP

When considering your options for bringing the project back on course, include the following in your thinking:

- » **Use contingency to absorb an overrun if you're out of float.** You should always have time, and sometimes cost, contingency in the plan to allow for problems. Okay, you've had a problem, so use the contingency.
- » **Accept an overrun but 'buy back' some contingency.** If the activity is something that you can't put extra people on, you may have to just accept the overrun – this is what time contingency is there for, as covered in the previous point. However, if you're unhappy that it's taken up too much of your contingency for this point in the project, you may be able to buy back some contingency time by putting more staff on a later activity and so shortening its duration.
- » **Split the work.** It may be that part of the work must be done now, and although it was preferable that the whole job was completed in one go, in fact some of it can be done later in parallel with other things.



TECHNICAL
STUFF

Shortening an activity, usually by putting more staff onto it where that would be effective, is called *crashing* the activity. It's not a particularly good word to use because it sounds more like a disaster than a corrective action, but that's what it's called all the same.

Deciding what you'll do

Having considered a range of options for action, now's the time to make your mind up on what action or actions you're going to take. Your decision is likely to revolve around three factors:

- » What you think will be the most effective
- » What the cost is likely to be in terms of money and staff time
- » What the impact on other project work will be

To determine the last of these factors, your plan must be up to date – repeating the important point from the earlier section 'Having a reliable plan'. Computer tools can really come into their own when looking at impacts, because you can do 'what if' projections using the tool.

As with identifying options for corrective action, you may also consult others to help establish which options would be the most effective. If the decision is within your authority as Project Manager, you can make the final call, but if it's outside your authority, you may now need to go to your Sponsor or the whole PSG if you haven't already involved them.

Taking action

Having reached a decision on what to do, now you must adjust your plans to include those actions and then adjust the work in line with the revised plans. The implementation may involve talking with others in the project, including individual team members, to explain the problem, what you're doing about it and how it will affect their work. If you do that, you can also get project staff on board to help with the next step of monitoring to see whether the solution is working and, if it isn't, to let you know.

Monitoring the effectiveness of the action

In some cases, after the control action is put into effect, that's the end of the matter. But in many cases, you need to check whether your actions are proving effective. If the actions are working, that's all well and good, but if not, you'll need to look at why that is, see what range of actions are now possible in the light of this new information, choose what to do . . . Yes, go through all the steps again. Then monitor again. If the new actions aren't working too well either, then you go back around the steps for a third time. If the actions still . . . no, I think that's enough to make the point.

Monitoring Work Effort and Costs

Progress monitoring is very important to be sure that you deliver on time. However, progress isn't the only thing to watch. You must also keep an eye on work effort and costs – which, of course, are related. Importantly, you'll also need to monitor whether the quality is okay, which is covered in Chapter 11.

Keeping an eye on work effort

It may be that products are being delivered on time but are taking more or less work effort than you expected. Comparing work effort expended with work effort planned can highlight when people are:

- » Cutting corners on quality
- » Encountering unexpected difficulties performing the work
- » Incorrectly expanding or reducing the scope of an activity
- » In danger of using up allocated work effort before the project ends
- » More or less qualified than anticipated

To monitor work effort, you'll need to collect data on the actual effort spent on each activity to build each product. The following sections give a steer on what data to collect, how to collect it, how to improve its accuracy and how to analyse it.

Analysing work effort expended

You can evaluate your project's work hours by comparing the actual hours work reported by team members with those forecast in the plan. How closely you need to monitor this will determine the lengths you choose to go to in drawing up matrices and graphs to track it all. Whatever time analysis you do choose, keep an eye out for patterns and trends. For example, is one team member working fewer and fewer hours each week on your project and falling behind? If that is the case, find out why. Perhaps they are not full time on your project and are being pressured to put in extra time on another project. Now, that it not to say that they can't or shouldn't do more on another project if it is higher priority, but someone should have told you (the other Project Manager or the team member themselves) and you will want to take action that any further instances are discussed first.



Actual staff hours expended are rarely exactly the same as the planned amounts. Typically, variances of up to 10 per cent above or below the expected numbers in any month are normal. As always, that depends on how usual or unusual the work is. If it's all well-known and been done lots of times before on similar projects, you can expect the estimates to be pretty close in. If it's all breaking new ground, you can expect the reality to vary rather more from the estimates – in either direction.

Collecting work-effort data

Asking your team members to complete time sheets is the most effective way to collect work-effort data. You need to include the following information on each time sheet (see Figure 15-2 for an example of a typical time sheet):

- » The list of activities that the team member is known to be working on currently, or which are slightly in the future but are included because work may have started on them early
- » The number of days or hours' work logged against each activity on previous time sheets
- » The number of days or hours a team member worked on each activity in the current week
- » The time the team member estimates they will need to complete their work on the activity

If you're logging hours rather than days, recording work on activities to the nearest half hour is sufficient.

ProjectAlpha – Timesheet				
Staff member: Fred Smith		Week commencing: 3 September		
Activities	Planned (days)	Booked previously	Time this week	Estimated time to complete
Design flange unit	15	14	0.5	0
Consult specialists	5	4	1	1
Adjust flange unit design	4	1	2	1
Design safety mechanism	12	2	1	1
Design box assembly	8	0	0	8

FIGURE 15-2:
A typical weekly time sheet.

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TIP

Good project scheduling tools often produce time sheets at the click of an icon, and in fact Figure 15-2 is based on a project scheduling tool where the software has entered the first two columns of figures. If you think about it, the tool already knows who's working on the project, what work they're scheduled to do and how much time is estimated for each activity. If you use the computer to print out the time sheets, you make life easy for your team members who just need to fill in the remaining information each week. They'll be much more open to providing information for you if, in turn, you've made the reporting as easy as possible for them.

A time 'sheet' need not be paper. You may have software that allows team members to enter data directly. Also, spreadsheets are great and can show what each team member is currently working on with weekly time columns for them to fill in. I have used this, and even automated the updating of the master spreadsheet from those that the team members returned each week; that made collating the time actuals really fast and low-overhead.

Asking for the Estimated Time to Complete

Estimated Time to Complete provides an excellent early warning system for unexpectedly early or late completion. For example, an activity may have been planned to take 20 days, the team member has so far spent a total of 10 days on it but now expects to finish the job in another 5. In other words, they're expecting to come in five days early. Knowing that may be really useful when doing forward 'what if' projections on the plan. You'll be looking to see whether you can exploit that early finish to make it even more beneficial, perhaps by bringing forward other project work or reducing the hire period for that very expensive piece of equipment, and so save money.

You can see a couple of examples of the value of Estimated Time to Complete in Figure 15-2. Having done three days of work so far on designing the safety mechanism, team member Fred now thinks he can complete the job in a further seven days and so bring in the work two days early. In contrast, having spent five days consulting specialists on the design of the flange unit, Fred is warning that the consultation isn't quite complete and he'll need another day on it, taking the activity to a total of six days against the originally estimated five days.

Improving the accuracy of your work-effort data

The more accurate the work-effort information from team member is, the more meaningful your analyses will be.

The following steps can help increase the accuracy of the work–effort data you collect:

- » **Explain to people that you're using their staff hours information to help you manage the project, not to spy on them.** When you ask people to detail the hours they spend on specific assignments, they may worry that you'll criticise them for not spending time exactly in accordance with the plan – no matter what the reason – or for not spending enough hours on project work as opposed to other duties. This can lead to people reporting their work-hours in line with what they think you want to see instead of what they're really doing.
- » **Ask project staff to record the actual hours they work instead of making their total hours equal the standard working week.** If people must record only a standard total (perhaps 37.5 hours per week) and they work overtime, they'll omit hours here and there or try to reduce them proportionately. You need team members to record accurate data.
- » **Include categories for time on non-project activities, such as 'unallocated', 'administrative overhead' and so on.** If you want people to record their time accurately on project activities, you must provide them with appropriate categories that cover all of their time. An alternative is not to expect the time sheets to cover all the hours in the week but rather just the hours spent on your project.
- » **Make sure people fill out their own time sheets – daily.** Some people ask a third person such as a secretary or personal assistant, if they're senior enough, to fill out time sheets for them. But people have a hard enough time remembering what they themselves did the past day or the past week; expecting someone else to accurately remember it for them is totally unrealistic. Encourage your project staff to fill in their time each day. Otherwise, when it comes around to Friday, it can be guessing time as to what they did on Monday and Tuesday, because they can't clearly remember. You need to monitor progress based on factual information not guesswork.
- » **Collect time sheets weekly.** If people do wait until the time sheet is due before they complete it, you limit their recall to the current week. If you collect sheets once a month, those people will be sitting there at the end of the month trying to remember whether they were even in the office four weeks ago! Besides which, you need to have the plan up to date in order to control the project. If a problem comes up, it's no good trying to work out what to do using a plan that was last updated a month ago.
- » **Don't ask people to submit their time sheets before the period is over.** On occasions, managers ask staff to submit time sheets on Thursday for the week ending on Friday. But this practice immediately reduces the accuracy of the data because a team member can't be certain what they'll do tomorrow. More importantly, though, this practice suggests to project staff that, if guessing at Friday's allocation is acceptable, maybe they don't have to be too concerned with the accuracy of the rest of the week's data either.



In this context, *Earned Value Management* (EVM) is a great technique for calculating – from resource expenditures alone – whether you’re over or under budget and whether you’re ahead of or behind schedule. On complex projects, Earned Value Management is a useful way to identify areas you should investigate for possible current problems or potential future problems. See Chapter 21 for an explanation of Earned Value Management.

Choosing a system to support your work-effort tracking

If your organisation already has a time-recording system, this may be fine for your project too if you can get access to set up your project activity codes and then have access to the information that’s been input. However, you’ll usually find that organisational systems just don’t have the level of detail needed for project control. If you do need more detailed information, you’re going to have to ask your staff to complete two time sheets: the organisational one and the project one.



When asking for additional data, explain clearly why you need the more detailed data and make it as easy as possible for staff to log it and return it, so minimising the extra work you’re asking them to do.



If you decide to use *percentage complete* alongside product delivery to monitor progress, because it’s included in your software package, be careful because you’ll hit problems even when looking at an individual task. Just because 30 per cent of the allocated time has been used up doesn’t mean that 30 per cent of the task has been done. However, adding ‘estimated time to complete’ on the timesheet can help with this difficulty – see Figure 15-2.

Follow the money: Monitoring expenditure

Alongside tracking progress, you must monitor your project’s spending to verify that it’s in line with the plans and, if it’s not, to address any deviations. You may think that you can determine project funds used to date and funds remaining just by reading the balance in your project’s financial account. However, spending project funds usually involves several steps before an item is actually paid for. Monitoring just what stage the spending has reached for each item is important for your financial reporting, because your accounts department is going to want to know. It follows that you’ll probably need to set up your budget and also Procurement Plan (if you’ve got a lot of purchasing to do) to reflect the same steps in the process, so that you can report the financial position quickly and easily, as well as use the information for checking the actual spending against the planned spending.

SPENDING STEPS

Normally there are several steps to the process of buying goods and services, and you'll need to discriminate clearly between each of them:

- **Planning:** You'll plan finance with ballpark figures when first sketching out your project, then in increasing detail as you go through project planning and, later, stage planning (see Chapter 9 for more on levels of planning). The project budget will need updating at each point as better information becomes available.
- **Getting approval:** What you want and what you get may be two very different things. Having planned your project expenditure, most organisations require you to get approval. Financial approval may be included when the Project Plan is agreed, or it may require a separate submission to a finance manager or some financial approval committee. Beyond that, for large expenditures in particular, you may need to obtain additional specific authority for each spend.
- **Placing the order:** When an order is placed, the money is committed, and that's of interest to the accounts department. They will want to know that funds have been committed, even though the money hasn't been spent yet and it's still sitting in the organisation's bank account. With large expenditures in particular, the finance staff will need to keep an eye on cash flow, but as a minimum for all expenditure they'll want to note what is being committed in each financial year. Toward the end of a financial year especially, commitment of funds can be very sensitive.
- **Receiving an invoice:** When goods are delivered, the invoice will shortly follow from the supplier. Receiving the invoice is significant, since the clock is now running to the point of actual payment. In many cases, there will be an agreed payment period, often 28 days, and you should make sure that payment is indeed made in this time. Unless you want to get a bad reputation with your suppliers and be very unfair to them, you need to ensure prompt payment. You've received the goods or services, and it's only right and proper that the supplier should get the money for them.
- **Authorising payment:** Often before an accounts department will make payment, some confirmation is needed that the goods or services have been received and are satisfactory. Be careful to keep track of invoices and don't delay payment and cause problems for your suppliers (and your accounts staff, who are having to deal with the suppliers chasing payments) because the invoices were buried in a pile of paperwork and you forgot to approve them.
- **Making payment:** This is when the funds actually go out. However, be careful even now because funds don't always go out immediately. If you work in a large organisation that pays electronically in batches, there may be a weekly, two-weekly or even monthly payment run, and the payment may be delayed by that period if it has just missed a batch submission.

If your organisation has fixed financial procedures that take time, such as a monthly payment run, you probably won't be able to do too much about that. However, what you can do is keep suppliers informed of when they will be paid. If suppliers know when the money is coming, that's not as bad as being completely in the dark. However, check your facts before mentioning payment dates. It leads to bad working relationships if there are a string of broken promises over payments. In the worst case it can mean you lose good suppliers. Small specialist companies in particular may be less inclined to work for your organisation in the future if they know that there are constant problems and expenses (phoning, sending chasing letters, even taking legal action) over getting paid.

Where spending is running over a financial year end, which on a project it often will be, you may hear accounts staff talking about *accruals*. This is where money is committed in one financial year, but isn't actually spent – by paying the bill – until the following one.

Tracking spending against the plan

To keep control of project spending, you have to compare the amounts it was planned to spend with the amounts that were actually spent. There's usually no need to get complicated about it, and you can set up a simple report format such as that shown in Figure 15-3.

ProjectAlpha – Financial Report				
Stage 5 spending		Position as at 20 September		
Purchase items	Planned (£'000)	Actual (£'000)	Estimated remaining	Variance
Computers	22	20	0	–2
Network equipment	8	9	0	1
Cabling	4	4	0	0
Contract cabling staff	12	9	5	2
Contract design staff	8	0	8	0
Variance to date:				+1

FIGURE 15-3:
A simple financial report.

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The actual numbers for the period come from the data you obtain during that period. *Actual* in this illustration may mean the value of purchase requisitions, purchase orders, commitments, accounts payable and/or expenditures. Total remaining funds are the difference between the total budget and the actual amounts expended to date.

Clearly, the ‘actuals’ on the spending report can only be on spending to date. It’s certainly important to know what has been spent in total to this point, but it’s also important to compare that figure with what you planned to have spent by that same point. If the plan shows that this eight-week stage is forecast to cost £102,000, and by Week 4 a report shows that the amount actually spent or committed is £51,000, it doesn’t tell you very much and it certainly doesn’t tell you whether the spending is on track, even though half the time is gone and half the money is spent. If, in Week 6, there was a planned expenditure of £80,000 for a new machine, you’d be more than a bit concerned at this point and you certainly wouldn’t think that the spending was on track. So, to be clear, you need to compare *what has been spent at this point* with *what you planned to have spent at this point*.

You may have spent more or less money on your project activities up to this point than you planned, for a number of reasons including:

- » You receive the bills for goods or services later than you expected, so they’re paid for later than you planned.
- » You buy and take delivery of items early, or just prepay, to receive special discounts such as sale prices.
- » You don’t, after all, need certain goods or services that you budgeted for in your plan.
- » You find you need goods or services that you didn’t budget for in your plan.

Differentiating between overspending and early spending

Even if spending is greater than planned for this point, it may still not be a problem. In exactly the same way that you need to ask *why* if a stage is going off the plan, you also need to ask *why* if the spending is different to the forecast. An important check is whether the spending is overspending or something has been bought in advance of what was originally planned, so it’s early spending – the early purchasing mentioned in the second bullet point in the previous section. In the case of early spending, the stage (or project) may still finish on target, or perhaps under it because of that bargain sale price. In the case of overspending, you may have a problem.

Choosing a system to support your expenditure tracking

Before developing a way of monitoring the project's expenditures, first check the nature and capabilities of your organisation's financial tracking system. Most organisations have a financial system that maintains records of all expenditures. Often the system also maintains records of accounts payable. Unfortunately, many financial systems categorise expenses by cost centre but don't have the capacity to classify expenses by components within a project, and if that's true for your organisation, then you need to find something else to provide the additional detail you require.



TIP

Probably, you'll find that a spreadsheet is more than enough to give the tracking and reporting you want. Spreadsheets have the advantage that they are very clear and also powerful. However, you can use other software such as dedicated accounts packages or even the inbuilt functions of project-scheduling software such as Microsoft Project. Check out Chapter 20 for more on using software to make your life easier. Where you are using software, even a spreadsheet, don't forget to make regular backups of your valuable financial information, or you may suddenly find that your life has become far from easy.

Dealing with Change and Avoiding Scope Creep

Alongside progress and financial control, you'll also need to exercise change control if your project is not to experience problems. So look out, there's a project killer about, and its name is *scope creep*. Scope creep, as the name suggests, is a change to scope, but it's made up of small movements – and actually *small* is the problem. If a project was known to be just about achievable with the given budget, staff resource and time, and somebody came along and asked for a huge change with no increase of resource or timescale, then clearly you'd turn the change down flat. The problem comes with a small change. Imagine a year-long project and a small change that will *just* (people almost always use that word) take eight minutes and cost 37p. Now surely you can manage to absorb this tiny job as a goodwill gesture in a 12-month project with a £14 million budget? Well, perhaps not.

The management writer Charles Handy uses an example in his book *The Age of Unreason* (Random House Business, 1989) that if you drop a live frog into boiling water, it will jump out very smartly (please don't try this at home!). If, however, you put a live frog into cold water and very slowly heat the water up, the frog will allow itself to be boiled to death (once again, don't try this!). Apparently, frogs

can't detect incremental changes in temperature. Charles Handy applied that illustration to companies that have a strong product and a leading position, but some years later go bankrupt. A huge shift in the market had occurred, but it happened very gradually and was made up of a large number of tiny changes. Had the changes been big, the companies would have seen them and reacted. It's because each change was small that the companies didn't notice the market shift until it was too late.

Projects can, and do, suffer the same fate as the frog and the companies Charles Handy describes. Each change that is asked for in the project is very small, but cumulatively the changes represent a very big change that the project can't absorb and that proves unmanageable and so fatal.



REMEMBER

The answer to scope creep is simple: change control. Note the word *control*. I'm not talking about change *prohibition*. In fact, prohibiting change in the project is usually damaging, but sometimes it's impossible anyway. The thing you have to eliminate then isn't change but *uncontrolled* change.

If you're not fully convinced that you want to allow changes in your project, consider the following:

- » Changes in the project to reflect changes in the business environment
- » Correction of mistakes
- » Good ideas that will make things simpler or cheaper
- » Legislative changes such as new electrical or safety standards
- » New technology that's easier to use and cheaper to maintain

This section helps you set up a change control process to manage changes in your project. It provides some helpful steps to follow when considering and acting on a change request.

Understanding different types of change

Different types of change are significant because you may fund them in different ways. Where something has been delivered by a supplier and it's wrong, then it needs to be changed to be put right. If the original specification is clear, then the cost of this corrective change will fall to the supplier. But when the change is because the project customer has had a change of mind or something has changed in the business environment, the cost of that change will fall to the customer. When additional work falls to an external supplier as a result, there will normally be an additional charge.

To control change you're going to need some procedures, albeit perhaps simple ones, and usually a change budget. Both need some careful thought.

Setting up change procedures

To get a change, it has to be asked for, considered, approved (or not) and then implemented. You can do this very simply with the use of a change request form – but of course this can be electronic and sent by e-mail, it doesn't have to be paper.

A *change request* should set down basic information, but that may be supplemented by the Project Manager after the request has been analysed. It should have basic information included on 'what' and 'why' as a minimum. In some cases, until some exploratory investigation has been done, it may not be possible to say exactly what's involved in making the change. Basic information includes:

- » Name of the person asking for the change
- » Date of the request
- » Description of the change, including any products it affects
- » Reason for the change, including advantages, or saying if the change is mandatory
- » Impact of the change

This information may be recorded in a Change Log and then supplemented with more information and the eventual decision on the change request.

- » Work needed to effect the change
- » Decision taken, to agree the change or refuse it
- » Date the change request is closed

Having a *Change Log* is really helpful in the project, because it gives you an overview of the change requests received and what is happening to each. You can use a spreadsheet overview alongside your log and then you have the advantage that it can be sorted in different ways. For example, you may normally keep it so that live changes are at the top and closed change requests that have now been dealt with are sorted to the bottom.



REMEMBER

Do bear in mind that you may need to consult other people about a particular change request, such as technical experts on teams, or the PSG if it's something that requires authority beyond your own delegated authority, such as the change being high cost. It follows that when planning resources in the project, you should

schedule some time for team specialists to help examine change requests. The more the project is going into the unknown and the more change requests you anticipate, the more time you should allocate to deal with them.

Budgeting for change

In the same way that you need to set aside some time in the project for dealing with changes, so too you're going to need some budget. If there's no change budget, any change request will have to go to the Sponsor or the full PSG because, by definition, it's not on the plan or included in the budget that the PSG originally authorised.

How much there should be in a change budget depends on two main factors:

- » The amount of change anticipated in the project. If it's rather unclear what will happen in the project, then you can expect more change than if things are very clear and definite and can be put on the plans.
- » How much the PSG wants to be involved with authorising changes and how much of this decision-making the PSG wants to delegate to the Project Manager.

The PSG can set two dimensions on a change budget: a total amount and an item amount. So, for example, the Project Manager must go back to the PSG if the total changes exceed a limit of £25,000 or for any single change that will cost £5,000 or more.

Looking at impacts – the four dogs

Some people, and many senior business managers, live in a comfortable, rose-tinted world where project changes can be absorbed with no impact. Sadly perhaps, the rose-tinted world is imaginary and projects happen in a real world with some very real change dynamics.

Different project approaches identify different control factors. The Project Management Institute (PMI) recognises four, and that's realistic. I was teaching project management to a group of police officers, and came up with the analogy of four dogs (in their case, police dogs) pulling on a piece of project 'canvas'. As illustrated in Figure 15-4, the four dogs are:

- » Cost
- » Quality

- » Scope
- » Time

The piece of project ‘canvas’ is very strong; it won’t stretch and it won’t tear. If one of the dogs pulls a corner of the canvas, something’s got to give. Perhaps the canvas will pull sideways and just one other dog will get pulled along, or perhaps it will pull the other side and two dogs will get dragged, or perhaps all three will be taken in tow.

The dogs model shows the dynamic between the four control elements, and is so simple you can keep it in your head when you’re thinking about a change. Perhaps the users of what the project is delivering decide that they want something additional included. In that case, the ‘Scope’ dog pulls the canvas, so what action is available to you as a Project Manager? You could ask for an increase in resource to deal with the change, but keep the quality the same and maintain the delivery date. Or perhaps you could ask for extra staff resource, but allow a bit more time as well so that the project can take a bit longer to accommodate the extra work.

Sometimes one of the control points is fixed, as in the case of the rather stout-looking ‘Time’ dog in Figure 15-4. This project must be delivered by the end of the financial year, and that’s not up for debate. The ‘Time’ dog is sitting firmly on the ground, so if there is to be a decrease in resource (the ‘Resource’ dog pulls the canvas), you have only two dogs left to consider. Should you reduce quality and do less testing, or de-scope the project and leave something out, or both?

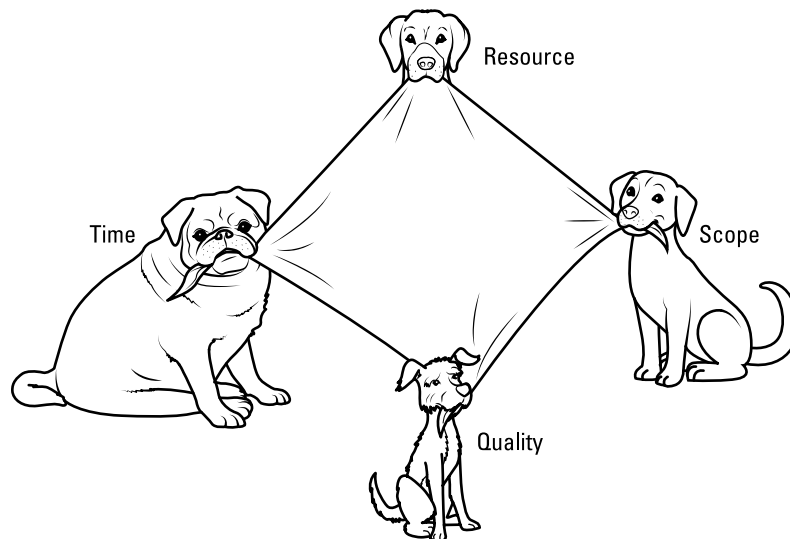


FIGURE 15-4:
The four
control dogs.

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You may notice in Figure 15-4 that the ‘Quality’ dog looks a bit thin and weedy. In many projects – not yours of course – the ‘Quality’ dog is the first target because ‘perhaps we’ll get away with it if we only do the main tests’. Clearly, that’s not a good general strategy, but it may sometimes be necessary to reduce quality if the pressure is on. However, that’s a decision that you need to take both thoughtfully and cautiously.

Sometimes people think that a dog has pulled a corner of the canvas and nothing has happened – ‘We got away with it’ – but it’s not true. A look behind the dogs will reveal claw marks in the turf where one or more has been dragged. A common example is where organisational managers have insisted that the scope of the project is extended but there will be no allowance made for extra time or cost, and the quality level is to stay the same. But if the project completes, claw marks in the turf may show that the ‘Quality’ dog was dragged and important testing was left out in order to meet the fixed deadline. Or perhaps the ‘Time’ dog was dragged and project staff put in all sorts of extra hours to complete the job within the original limits. If that situation extends into the next project and the one after (and organisational managers tend to make a habit of creating such pressures), then payback will come when valuable project staff start to leave the organisation. These staff get fed up with bailing out projects that bring constant pressure and long working hours because of bad management, and they move to jobs with better organised companies. And guess who finds it easiest to find a better job somewhere else – the best staff or the worst staff?



TIP

The control dog model in Figure 15-4 is useful in initial planning as well as in change control. It’s a good acid test for the plan to ask whether the project ‘canvas’ is in the right tension. So you, and the PSG, can ask, ‘Can we deliver that scope, to that quality level, with that resource within that timescale? Is it realistic? Is it do-able?’ When looking at the plans of failed projects, it is often immediately identifiable that it was never possible to be successful with that particular balance of the control elements, and the project was doomed to failure from the very beginning.

Responding to change requests



TIP

Whether you handle change requests formally or informally, always follow these steps:

1. When you receive a request for change to some aspect of your project, clarify exactly what the request is asking you to do.
2. Unless your project is very informal, ask for the request in writing. In a change control system, people must submit every request for change on a change request form. This provides a clear record of the request – but, as always with documentation described in this book, it doesn’t have to be lengthy.

3. Assess the change's potential effects on all aspects of your project. Also consider what may happen if you don't make the change.
4. Decide whether you'll implement the change. If this change affects other people, involve them in the decision too.
5. If you decide not to make the change, tell (preferably go and talk to) the person who asked for it and explain the reason(s).
6. If you decide to make the change, write down the necessary steps to implement the change.
7. Update your project's plans to reflect any adjustments in schedules, outcomes or resource budgets as a result of the change.
8. Tell team members and other appropriate people (such as stakeholders) about the change and the effect you expect it to have on them and on the project as a whole.

If you have an effective change control system, you can handle very big changes as well as the small ones. The key question is always 'Is the change justified?' If a big change would bring very substantial additional business benefit, then it may well be worth doing. In that case, the PSG will make the decision to accept the change, and the Project Plan and Stage Plans can be adjusted, even dramatically, to accommodate the additional work. In that way, the extra time and resource will be allocated and the project brought back into balance – back to the control dogs in Figure 15-4.

Eliminating scope creep – well, almost

This section on change started with the warning that scope creep is a major project killer. In surveys of the causes of project failure, expect to see scope creep in the top five reasons, because it's nearly always there, and frequently it occupies the number one slot.

Two elements of project management help you almost eliminate scope creep:

- » A change control procedure, as covered in this section
- » Clear, precise and agreed definitions of project deliverables, as explained in Chapter 5 on product planning

There is a small area left where there can still be misunderstanding on what is included in the project: where a customer assumed something was included that the Project Manager and team assumed wasn't. Even with the Product Definitions in planning you can't always spell out every last minor detail. But the potential for misunderstanding is small and therefore any misunderstanding is likely to cause only minimal difficulty if it does occur.

Handling Bad News

The final element of control to mention in this chapter is to have a mechanism where those involved in the project can report problems as well as put forward ideas and suggestions. In a very large project, this mechanism may be for them to report the matter to their Team Leader on a *project memo* and, if the Team Leader can't resolve it then it will be passed on to you as Project Manager. Or, you may have a mechanism that problems are reported directly to you in the first place. Either approach can work, but be aware of a potential problem if things go through Team Leaders because they can get filtered. A 'very serious issue with incompatibility between parts on the outer flange' can get relayed to you as 'a minor technical niggle and what are you doing for lunch today?' This can be especially so if the team is from a supplier outside your organisation because their business managers may not want you to know about problems.

Having had a problem reported to you, be prepared to *hear* it. Don't dismiss it as someone being negative or exaggerating. Guard also against team members being put off telling you things. That may be because they once reported a problem and they were entirely wrong and had misunderstood. If you coldly pointed that out in front of their colleagues, they may be very reluctant to tell you about anything else. If, instead, you privately explain why it isn't a problem, but thank them for pointing it out so it could be checked, they will feel open to reporting other things. And perhaps the next thing will be something that you are extremely glad they brought to your attention quickly.



REMEMBER

The earlier you hear about a problem, the sooner you can react and do something about it before it grows to more significant proportions. Hearing about a problem isn't a problem; not hearing about a problem (until it is too late to prevent significant damage to the project) most definitely is!

- » Identifying the underlying causes of communication problems
- » Thinking through the communication needs in your project
- » Establishing the most effective means of communicating
- » Planning for communications coming into the project, happening within it and going out of it

Chapter **16**

Keeping Everyone Informed

Communications are a major source of problems in projects, which isn't very surprising when you think how often people misunderstand each other outside the world of projects. You can minimise the problems, though, with some thought about communications up front. As with so much else in this book, you won't find this chapter difficult, but it is essential.



It can be tempting to skip over project communications and not think much about it, if at all. After all, as Project Managers we can all talk can't we? But there is a world of difference between communicating and communicating effectively. Consider not only what to communicate, but to whom and how best to do it. It's important, and if you are to succeed you need to be not only a good, but also a thoughtful, communicator.

There's a distinct link between clear communications and well-defined roles and responsibilities, so if you haven't read Chapter 12 already you might like to have a look at it after you've read this one. A lot of communications problems arise

because people aren't clear on what other people are doing; and sometimes they're not all that sure about what they're supposed to be doing themselves either. This is the root of many, though by no means all, communications difficulties.

This chapter sets the scene by looking at the underlying causes of communication problems, and then takes a quick look at the dynamics of communications. Finally, it gives you some help on the practicalities of planning exactly what communications you're going to need in your project and how best to carry them out. You'll probably want a Communications Plan as part of your Project Management Plan (more on that in Chapter 2) but don't panic because it can be really straightforward and incredibly helpful.

In a nutshell though, you're looking to communicate intelligently and effectively in your project. That effectiveness includes avoiding over-communicating (bombarding people with unwanted information) as well as under-communicating (where nobody knows what on earth is going on).

Looking At Communications Failure

Communications are inherently difficult. Sometimes such misunderstandings can be funny, such as the Chinese whispers party game where a spoken message is passed around a circle of people and the final version – usually hilariously – bears no resemblance whatever to the original. Funny at a party and as a joke perhaps, but communications problems are potentially extremely serious in a project, and aren't funny at all.

Communications breakdown – the big project killer

If you've read other chapters in this book before coming to this one, you may react with, 'Oh no, not another project killer.' It's true that quite a few project killers are mentioned in the book, and for the very good reason that quite a few are out there! Communications problems are particularly significant when you see the results of surveys into failed projects. Communications failure doesn't always take first place as the most common cause, but it's always in the top few and frequently it does occupy the number one slot.

Good communications need careful thought, and the emphasis must be on appropriate communication, carried out intelligently. Information travels in the blink of an eye, including details that people haven't had time to consider or correct. And

far from not having enough information, you're bombarded with it to the point that it's hard to find what you want among the huge volume of redundant stuff clamouring for your attention. You may be thinking of your e-mail inbox as you read this, and nodding.

Identifying causes of communications problems

Coming to the specifics of projects, what, then, are the particular underlying causes of communication problems? The following sections help you understand some of the causes so that you can then avoid the pitfalls when planning communications in your projects.

Having unclear roles and responsibilities

A lot of communications problems result from unclear roles and responsibilities, where people involved in the project don't have a clear understanding of what they should be doing, and are even less clear on what other people in the project are supposed to be doing. Small wonder, then, that things drop down the gaps. Avoiding this problem is straightforward enough, and you can find help in Chapter 12 on project organisation. If project staff are absolutely clear on what they should be doing and exactly what they're responsible for, and are equally clear on the roles of others in the project, the potential for communication difficulties is immediately reduced.

Being fuzzy on products

Great misunderstanding arises in projects over what people are to deliver. It's all too easy for people to use similar words but have different ideas, or simply to make assumptions that the other person is thinking along similar lines. This is a serious communications problem because misunderstanding over deliverables, or *products*, leads to confusion, wasted work, frustration and project delay.

Turn to Chapter 5 for some real help in avoiding product confusion, hinged on the *product-based* approach to planning. Chapter 5 includes the *Product Definition*, which sets down exactly what the product is, what quality criteria it must satisfy and how it is to be tested. Simply make sure that the definition, while not going into unnecessary detail that team members don't need, carries enough detail to be unambiguous. You can also involve team managers in planning – perhaps in a workshop – to discuss and even help define the deliverables.

Making assumptions

It's not the conscious assumptions that are the problem in communications, but rather the unconscious ones. You can record conscious assumptions so everyone can see them – for example: 'This plan is based on the assumption that the government grant will be authorised and the funds will be available at the start of the new financial year.' Unconscious assumptions are those that, by definition, you don't realise you're making. You just 'understand' something and don't realise that you've misunderstood. It's impossible to eliminate unconscious assumptions, but you can reduce the number you make.



TIP

You can help reduce assumptions by putting aside any thought of having a cool image as the Project Manager who knows everything. A cool image may be fine in a social setting to boost your street cred, but can be damaging in a project. A parallel is when you're new to an organisation and you've been asked to attend a meeting of mostly senior managers. So, take a test. The senior managers are discussing their grave concerns over the state of HMRTs, of which too many are proving to be inaccurate. Now, do you . . .

- » Nod knowingly and frown a bit, as if you're also deeply concerned about inaccuracies in the HMRTs.
- » Keep your head down but surreptitiously make a note for action straight after the meeting to go and find someone in your department and ask what on earth an HMRT is.
- » Interrupt the meeting and say that you're sorry but you're new and you don't know what an HMRT is. Please could someone briefly explain?

The correct answer for the meeting is, of course, the third. But so, too, it is the correct answer in a project when a junior team member is discussing something with you that you need to know about but don't understand. To do anything else but ask is to cause communications problems in which someone thinks you understand and are agreeing to something, whereas actually you don't and your nodding, or simply failure to say 'no', wasn't intended to convey agreement.



WARNING

You'll do more damage to your image by pretending to have understanding when you don't than by swallowing your pride and being prepared to ask the dumb questions in order to have a successful project.

Failing to feed back

When information is really important, it's helpful in a conversation to feed back to check your understanding. So many misunderstandings go undiscovered because people don't use the simple mechanism of feedback. It doesn't have to be

difficult or embarrassing. You can simply say, ‘That’s really important. Now can I just go back through it to make sure I’ve got it absolutely right, and you can tell me if I’ve misunderstood anything?’ That gives both opportunity and permission for the other person, even a very junior team member, to put you right if you have got something wrong.

Communicating Effectively

You can think about the process of information exchange in terms of the following components:

- » **Intention:** The thoughts or ideas someone wants to convey.
- » **Sender:** The person transmitting the message. Who they are and their mental state (for example, detached and factual, emotional or angry) will affect the way that the message is composed.
- » **The message:** The message itself, translated into a form expected to be understandable to others. That form may consist of words, pictures or both.
- » **Medium:** The method used to convey the message (there’s more on this later in this chapter).
- » **Noise:** Anything that hinders successfully transmitting the message. Noise includes audible and visual noise – distraction – as well as ‘internal’ noise such as preconceived notions, biases, difficulty with the language used, personal feelings, nonverbal cues and emotions.
- » **Receiver:** The person getting the message.
- » **Decoded message:** The message translated back into thoughts or ideas. This may be influenced by who the receiver is and their mental state (for example, factual or already feeling threatened or blamed).

Depending on the nature of a particular communication, any or all of these elements can affect the chances that a message is received as intended.



The expression *visual noise* in the previous bullet points may seem odd, but an excellent example of this happened at a university. Students were sitting in a lecture theatre, all listening with great interest to a distinguished professor who was a subject expert. In the middle of the lecture, a dog pushed its way in through the door and went from student to student wagging its tail and getting patted on the head. The professor went on with the lecture, totally immersed in the subject and completely unaware of the dog. But none of the students were now listening,

despite the interesting subject; they were all looking at the dog. Sometimes in a project, you need to get someone out of the working environment and take them into a meeting room or even just a quiet corner to be as sure as you can that they will concentrate on what you're saying.

In your project, it helps to think through each element of the communication to understand it and then decide the best means of communication. For example, who's receiving the message? If you're communicating with technical staff, be careful not to talk down to them and explain matters in laborious detail when they have much more knowledge than you. On the other hand, if you're talking to trainee user staff, don't have unrealistic expectations about the amount of understanding they have of the business process you're dealing with in the project; obviously, you're going to have to spell things out and check to be quite sure they understand.

Distinguishing between one-way and two-way communication

Some communications are one way, and others are two way:

» **One-way communication:** Going from the sender to the receiver with no opportunity for clarification or confirmation that the receiver got and correctly understood the intended message. This type of communication can be effective for presenting facts, confirming actions and sharing messages that have little chance of being misinterpreted.

One-way communications are either:

- **Push:** Proactively distributed to particular people; examples include memos, reports, letters, phone texts, social media messages and e-mails
- **Pull:** Available to people who must access the communications themselves; examples include online sites, document stores and bulletin boards

» **Two-way communication:** Going from the sender to the receiver and from the receiver back to the sender which helps to ensure that the intended message was received correctly. Examples include face-to-face discussions, phone calls, group meetings and workshops, telephone conferences, video conferences and online instant messaging.

Can you hear me? Listening actively

The one skill that most strongly influences the quality of your communications is your ability to listen actively. Good listening skills are important to be sure that

you're hearing correctly what others are saying to you, but are also important when you're checking the response of the other person to ensure that he's heard your message clearly.



WARNING

Be especially careful to listen in those cases where you disagree with someone. It's fine to disagree and even to come into healthy conflict (see Chapter 13 which discusses team dynamics). The danger of having even a healthy argument, though, is that you're so focused on getting your next point clear in your head that you fail to take on board what the other person is saying. Instead, slow down. Listen very carefully to what the other person is saying. Then don't be afraid even of leaving a short silence while you think about what the other person said before making your next point. Remember, you're equipped with two ears but only one mouth!

Listening is important to help you understand, but as a by-product it also has a powerful effect on those you're communicating with. Even if people disagree with you, they're much more likely to accept your authority and over-ruling of their points if they think that they have been heard. It is incredibly frustrating if you believe you have an important point but a key decision-maker hasn't taken the trouble to even listen to you. Going back to the argument in the last paragraph, you know that you would be impressed too if, when you are arguing with someone, they listen very carefully to each point that you make and stop to think about what you said before making their next contribution.

LISTENING

When listening to project staff such as team members, you can learn a lot about how your project is going by paying attention to *how* things are being said, not merely what is said. Consider the following:

- What words are being used? Are they emotionally charged or neutral?
- How is the person standing or sitting? Do they appear to be actively involved in the communication, often shown by leaning forward, or are they passive, uninterested or defensive, sometimes shown by leaning back and folding their arms?
- Is the person maintaining good eye contact, or looking to the side or down? Are they trying to avoid the communication and, if so, is that likely to be an attempt to cover up some problem?
- Is the communication clear and to the point, or is the person showing signs of confusion, indicating misunderstanding or being out of their depth with the project work?



TIP

If you have a number of teams working in your project, rather than just one that you're leading yourself, it's worth the effort to get along to team meetings from time to time. It demonstrates interest and gives you a chance to encourage a team in its work and express appreciation. But it's also invaluable to gauge how things are really going. Arrive at the meeting room early, grab a seat and then watch how team members walk in. Do they come in with a cheerful 'Good morning' and a smile and immediately start chatting about the project and the work they're doing, or do they slouch in with downcast eyes and go quietly to their places and sit silently waiting for the meeting to start? That sort of information never appears on progress reports.

Choosing the Appropriate Medium

When deciding how to communicate with different people in and around your project, choosing the right medium is as important as deciding what information to share. Your choice of medium helps ensure that people get the information they need when they need it.

Project communications come in two forms:

- » **Planned:** Planned communications will be conducted in a form that you have thought through in advance. Examples include things you want to say at weekly team meetings, stakeholder briefings and in monthly progress reporting.
- » **Ad hoc:** Ad-hoc communications occur as you think of information you want to share. These communications occur continuously in the normal course of business. Examples include brief conversations by the water cooler and e-mails you send during the day to find out more about things such as a newly reported risk or a problem.

Both planned and ad-hoc communications can be either written or oral.



WARNING

Beware of making an assumption that project communications all need to be written. Some communications may be carried out verbally, such as some of the reporting. Considerable project effort can be expended in documentation, so you don't want to do too much. For some things you may not need a full written report because a brief note of a phoned report may be sufficient. In the UK, the stock market used to work on the principle of 'my word is my bond'. In other words, when someone said something, they stuck to it. When that trusting culture can be developed in projects (and it has been done) then it's often accompanied by a considerable reduction in paperwork because a lot of documentation is defensive, to

be able to prove what was said or agreed to. In some cases, documentation is important, but perhaps not for all communications.

The following sections look at major communications options.

Writing reports

Unlike informal oral communication, written reports enable you to present factual data efficiently, provide a historical record of the information you share, and share the same message with a wide audience. Choose your words carefully to minimise misunderstandings and also if they're going to stay on the record.

Although written reports have quite a few benefits, they also have some drawbacks that you need to consider:

- » They take time and effort to produce, so you need to think carefully about the frequency of regular reports.
- » With written reports alone, you can't verify that your audience received and interpreted your message as you intended.
- » They don't enable you to pick up nonverbal signals that suggest your audience's reactions to the message, and they don't involve interactive discussion.
- » You may never know whether your audience reads the report, although you may have suspicions about it!

One problem often cited with written reports is that people can't ask questions as they can with face-to-face communications. However, you can offset that by putting contact details on the report so someone can get in touch easily if they don't understand something or want a bit more explanation.



REMEMBER

Keep the following pointers in mind to improve the chances that people read and understand your written reports:

- » **Keep to a standard format with regular reports.** This consistency helps readers of the reports to find specific types of information quickly.
- » **Minimise the use of technical jargon and acronyms.** If people are unfamiliar with the language in your report, at least some of the information is going to be misunderstood, or readers may simply give up.
- » **Identify a contact person for further information.** As mentioned in the last paragraph, routinely include contact details for any questions.

- » **Clearly describe any actions you want people to take.** The more specifically you explain what you want people to do, the more likely they are to do it.
- » **Keep your reports concise.** The longer your report, the less likely it is that people will read all of it. If the report is really long, people probably won't read more than the title.

Preparing progress reports

Progress reports are some of the most important reports you have in the project and are used at two levels in a project:

- » **From Team Leaders** to inform the Project Manager of the progress being made on their current work assignments or *Work Packages*.
- » **From the Project Manager** to inform the Sponsor or Project Steering Group (PSG) members about the progress in the current stage and in the whole project. This report may be copied to others who have an interest, such as key stakeholders, management boards and other projects.

Progress reports can be a real problem if they're unwieldy or if the content is unclear, so it's important to think through and agree the content and the format at the start of the project. A good project progress report should be short – about two to four sides of A4 – and one excellent way of achieving this is to use a dashboard layout with diagrammatic indicators.

Typical information in a regular project progress report during a delivery stage will be:

- » **Delivery:** Products that have been produced since the last report, and perhaps also in the stage so far.
- » **Schedule:** Whether the work is on time, behind or ahead of schedule. You might combine this with the delivery reporting – see the Work Checklist in Chapter 15.
- » **Budgets:** What staff time and money has been used so far, and how that compares with what was planned to be spent by this point. You might also show the spending against the total for the stage. For example, saying that spending has reached the 40 per cent mark against the stage total. 'Budgets' is plural here because you may report on not only the stage budget but also on the risk and change budgets (see Chapters 10 and 15 respectively for more on risk and on change control).

- » **Performance:** How teams are performing against estimates. Are things taking more time than expected, less or is performance on track?
- » **Risk management:** Current status of key risks and brief information on any new ones.
- » **Other information:** Such as on significant problems currently being addressed or any other information of which the recipient(s) of the report needs to be aware.



TIP

It can be really helpful to include a traffic light indicator, one of the dashboard elements coming up in the next section:

- » **Green** shows that everything is going pretty much to plan.
- » **Amber** shows that there are problems and if they get any worse then the problem will need to be addressed by the Project Manager (in the case of a Team Leader's progress report) or by the Sponsor or full PSG (in the case of the Project Manager's progress report).
- » **Red** means that the project (or Work Package for a team report) is already off the plan and is currently subject to discussion. In the case of the whole project, that discussion will be about how, or even whether, to proceed.

Using a dashboard format for progress reporting

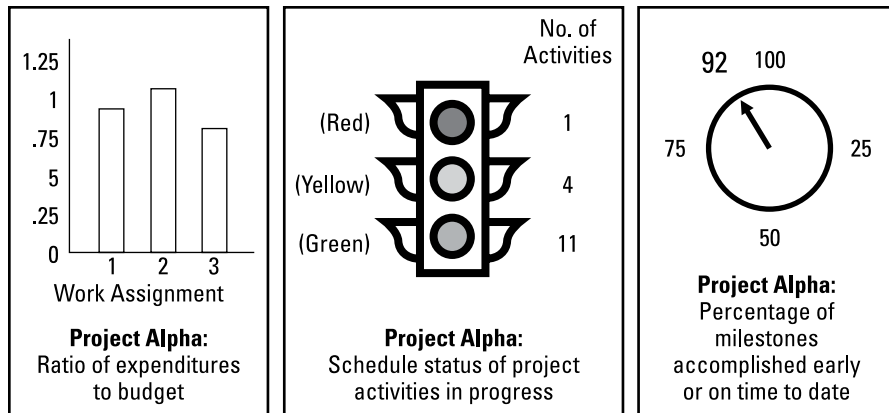
To make your written project–progress reports most effective, you want to include the relevant information in the least amount of space, but also to make that information as easy to understand as possible. A *project dashboard* is an information display of key indicators of project performance in a format that resembles an instrument panel on a dashboard.

Figure 16–1 shows some types of display in a project dashboard, although the example is a bit limited because it doesn't have colour which you can easily use.

When creating a dashboard for your project, be sure to agree the format with the Sponsor and PSG to be sure that you include the elements that they want to see, although some will be very predictable. You can use the 'petrol gauge' format as illustrated in the third item in Figure 16–1 for information such as budget information, not just progress.

Where you are presenting actuals (budget, progress) be sure to include the planned figures as well for comparison.

FIGURE 16-1:
Typical dash-
board diagrams.



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Meeting up

Few words give rise to anger and frustration on the level that the word *meeting* can. People often consider meetings to be the biggest time waster in organisations today, and all too often they're right.

You've probably been in meetings where you wanted to bang your head against the wall. Ever been to a meeting that didn't start on time? How about a meeting that didn't have an agenda or didn't stick to the agenda it did have and went round in circles? Or how about a meeting at which people discussed issues you thought were resolved at a previous meeting? How about a meeting where of the 17 things being discussed, only one affected you and even then not very much?

Meetings don't have to be painful experiences, though. If you plan and manage them well, meetings can be a highly effective and concise form of communication.



TIP

For many years the late Queen Elizabeth II is reputed to have taken an interesting approach for meetings to make people communicate concisely and keep meetings short. There were no chairs, so everyone stood up! People tend to be very brief when they have to stand.

You can improve your meetings by using the suggestions in the following sections. (In addition, be sure to check out the later section 'Holding project meetings' for information on different types of meetings.)

Planning for a successful meeting

To have a good meeting, you need to do some pre-meeting planning. Think through the following as you plan:

- » **Clarify the purpose of the meeting.** This step helps you ensure that you invite the right people, including the people who need to be there and leaving out those who don't and where it would be a waste of their time.
- » **Decide who must be there and why.** If you need information, decide who has it, and make sure you include them. If you want to make decisions at the meeting, check who has the necessary authority, if you don't already know, and make sure those people attend.
- » **Give sufficient notice of the meeting.** This step increases the chances that the people you want to attend will be able to do so. Senior staff will usually have less flexible schedules, so give plenty of warning. With regular meetings, such as if you have a progress meeting rather than just a report, you can set the dates well in advance.
- » **Make the purpose of the meeting clear.** Where the meeting isn't a regular one, those you are inviting need to know why you are holding it and why their attendance is important.
- » **Prepare a written list of topics.** This document helps people see why attending the meeting is in their interests. The list, or agenda, is also your guideline for running the meeting.
- » **Circulate the written agenda and any background material in advance.** That allows people to prepare for the meeting, including thinking about anything they want to contribute or find out.
- » **Keep meetings short, and no more than an hour.** Even if people can spare the time for a long meeting, they won't focus for an extended period so it will start to be ineffective anyway. If necessary, schedule more than one meeting if there is a lot of content to cover.

Conducting an efficient meeting

To have a really productive meeting, think about the following:

- » **Start on time, even if people are absent.** If people see that you wait for latecomers, everyone will come late next time!
- » **Get someone to take a written note.** Include who attended, which items you discussed and what decisions and assignments were made. The project administrator, if you have one, should do this.
- » **Keep a list of action items and assign one person to be responsible for each, even if others are to be involved.** This should be part of the notes, and an essential part.

- » **Stop the discussion on a point if you don't have the right information or the right people present.** Discussing an issue without having the necessary information or the right people present is just wasting everyone's time.
- » **End on time.** The people attending may have other commitments that begin when your meeting is supposed to end. Not ending on time will make them late for their next commitments or to leave your meeting before it's over. If your project meetings have a reputation for over-running, people are likely to find reasons not to attend the next one.

Following up with the last details

Your meeting may be over, but the work isn't done yet:

- » **Distribute meeting notes promptly.** These notes allow people to check the information discussed at the meeting when it's still fresh in their minds, and they remind people of their follow-up tasks. Try to distribute the notes within 24 hours of the meeting, and ask recipients to let you know if they have any corrections or additions.
- » **Monitor action items.** Monitoring the progress of all actions helps ensure that people will complete them.

Holding project meetings

Meetings you may want to hold within the project include:

- » **Ad-hoc team meetings:** To discuss a problem with something being developed and get everybody's ideas for the best way of dealing with it.
- » **Project progress meetings:** With the PSG, often every four weeks, to talk about progress and the outlook for the next period.
- » **Regular team meetings:** Often held weekly within a team to discuss progress during the week and talk about the work in the coming week.
- » **Stakeholder meetings:** To keep stakeholders up to date with what's going on in the project and help maintain interest, enthusiasm and a positive outlook. Check out Chapter 4 for much more on stakeholder management.
- » **Workshops:** Perhaps to sort out technical details such as a specification, but also useful for project planning, such as holding a risk workshop.

Setting up a project website

Do you ever get e-mails sent to you ‘in case you want to know’, but you don’t? E-mail is a brilliant communications option, but sadly a widely abused one, and that’s partly because it’s so easy. Your name can be put on a distribution list in moments, and you have to live with the consequences for months. Communications used to be largely by phone, but then came e-mail so people e-mailed instead. Now, because they know that you get a huge amount of e-mail, after they have sent you something, they phone you up to tell you to look out for it. And while they’re on the phone, they can’t help telling you what’s in the e-mail.

So much for other people bombarding you with information that you don’t want, but are you an offender too? Do you send other people masses of information about what’s happening on your project ‘in case they want to know’?

If a significant number of people (including staff in other projects) need to know what’s happening on your project, consider setting up a website. You can put key information there, and then send everyone a single e-mail to say that if they want to know what’s going on in the project, to look at the website. If they need more information than that, they should simply ask.



TIP

Websites are great for making information available, but remember they’re not usually very secure. You may need to sanitise the information put up on the site – which is fine for most people who need to look at it – but have a secondary line of communication such as an e-mail to the Sponsor for more sensitive information. You can put both of those communications into your plan – see the section ‘Preparing a Communications Plan’, towards the end of this chapter.

Making a business presentation

A popular medium for getting information across is a business presentation. This may be suitable, for example, for regular project progress meetings. Instead of having a written report, the Project Manager gives a short presentation with a few PowerPoint slides. The Project Manager then hands out the essential figures such as the spend against plan and products completed, on a very short note.

Preparing a presentation needs some thought and, strangely, the shorter the presentation then usually the more preparation is needed. It takes some serious practice to get the information across clearly in a short time. US President Abraham Lincoln was asked how long it took him to prepare a speech. He replied:

It depends. If I am to speak ten minutes, I need a week for preparation; if fifteen minutes, three days; if half an hour, two days; if an hour, I am ready now.

Planning the presentation

Start out by planning carefully. Think who'll be attending, what their interests are and so what information you need to include and what you don't need. Beware of putting in detail that you find interesting but your audience won't.



REMEMBER

In terms of the overall content, packing a presentation with a mass of facts and figures and delivering it all in a high-speed gabble isn't going to be effective, because the people listening to you simply aren't going to take it in. It's much better to have a much more limited amount of information delivered in a measured way.



TIP

When planning the content of a presentation, don't ever fill the time available. Always aim to underfill the time and that is for two reasons. First, you will speak more slowly in front of a group of people than you will on your own when rehearsing; and second, people will ask questions and you need to allow time to answer them. It's no good saying 'please leave your questions to the end' either. It's not fair to move on to new material in the presentation when someone's not clear about some vital information you've just covered. But in any case, if you're talking to senior managers, they'll ask questions as points arise, irrespective of whether you have asked them to leave questions until the end.

Using visuals

The proverb 'A picture is worth a thousand words' is true. Make use of *visuals* (slides), but use images and not too many words. Repeated lists of bullet points are deadly boring. Rather, use illustrations, graphs and diagrams. Most of the words in your presentation should be what you say not what you display.

When you're planning your use of visuals, avoid the temptation to have a lot. In a 15–20-minute presentation, plan to use no more than about five or six slides, including a title slide. A lot of slides flashing before the eyes is distracting.

Rehearsing

Rehearsing your presentation is essential to make sure that you can fit it into the time and also to make sure that the slides make sense. US President Abraham Lincoln – again – put it well when he said:

Give me six hours to chop down a tree, and I will spend the first four sharpening the axe.



If your presentation is very high profile, such as to key stakeholders, go through it several times and perhaps get some of your project team to stand in as members of the audience. Get them to ask questions too, and the tougher the better, so that by the time you get to the presentation, you've already covered every angle that you are likely to get asked about.

Dealing with questions

In the presentation itself, answer any questions honestly and, whatever you do, don't invent things. If you make up information, that's not only dishonest but it's likely to get you into trouble if someone in the audience knows it to be untrue or finds that out later when checking up on it. Your attempt at cover-up will merely result in a complete loss of credibility.

If you don't know the answer to a question, say so and tell the person that you'll find out and get back to them. And then make absolutely sure that you do get back to the person with that detail, and quickly.

If you have a troublemaker in the audience – and you'll get them occasionally – who asks questions that will take you off track, you must take control of the situation. You exercise that control in order to keep your presentation to time and on the subject that is of interest to the bulk of the audience. One way of dealing with the problem is to say to the questioner that the subject isn't the main focus of the presentation but that you'll be happy to take the discussion 'off-line' and talk to them at the end or at some other time.

Sticking to time, and going for the kill

Time management is very important in a business presentation, not least to convey to your audience that you understand that their time is valuable. That emphasises the need to rehearse the presentation and trim the content to fit the time available, with some spare. You must leave time to 'go for the kill' if you're asking the meeting for approval or permission, such as to start work on the next project stage. Don't end up in a fluster trying to cram your last points in and then realise, when everyone has left the room, that you didn't actually ask for the approval or permission you needed.

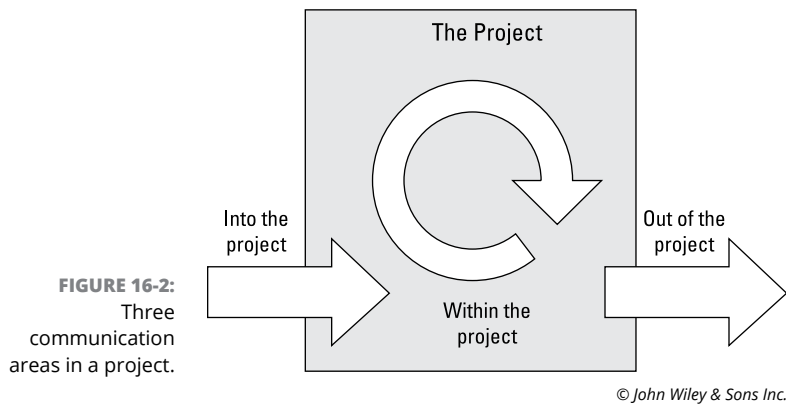
Preparing a Communications Plan

With the diversity of people who will be looking for information about your project and the array of data that you will be collecting, it's helpful and sometimes essential that you prepare a project Communications Plan (Comms Plan for short) to

record what communications are to be made and how. As with most project management documentation, the Comms Plan isn't difficult.

You'll normally think through the communications needs in detail when you are doing the project planning in the planning stage – see Chapter 2 for details of the four stages of a project. The Comms Plan then forms part of the Project Management Plan, the PMP. However, you may uncover communication needs before that in the starting the project stage when you're sketching out the preliminary ideas for the project. Don't run the risk of forgetting those communications needs, so note them as you think of them, ready for the Comms Plan.

As you come to think about project communications, it can be helpful to break them down into three areas to give more focus and structure to your thinking. Figure 16-2 shows the three areas.



Identifying the communications

Within each of the three areas of communication in Figure 16-2, think through what communications are likely to take place, or which you need to set up or ask for. Then for each one, make an entry in the Comms Plan – see the 'Writing a Communications Plan' section, later in the chapter.

Identifying inbound communications

Inbound communications can be from outside the organisation, or from within the organisation but outside your project, such as from other projects. Some of this information may be sent automatically, but you need to think about who'll receive it, and in other cases it won't arrive unless you specifically ask for it. You may need to include:

- » **Business information:** New policies and strategies, changes in the business or interfacing business procedures.
- » **Financial information:** Statements of project funds committed, information on project finance available (perhaps dependent on company profits at the end of the financial year).
- » **Interdependency information:** Such as progress on other projects interfacing with yours, or changes in those projects that will affect deliverables in your project.
- » **Staff resource information:** Details of when staff will be available to work on your project, or which staff can be made available. This may run counter to the recorded assumptions in your plan and so need change control action to re-plan.

Circulating information within the project

You can think of internal communications within the project as being at two levels. The first is communications between the PSG and the Project Manager, and the second is between the Project Manager and the Team Leaders or team members. That information is likely to include:

- » **Change control:** Asking for changes, perhaps to improve the project or to correct errors. (See Chapter 15 for more on change control.)
- » **Direct communications to the Project Manager:** Sometimes known as *project memos* or *project issues*. This allows anyone in the project to communicate directly to the Project Manager – that's a simple but very powerful mechanism.
- » **Financial information:** What money is being committed by Team Leaders, where they have delegated authority to spend.
- » **Product control:** Authority from the Project Manager to a Team Leader to start working on a work assignment, or *Work Package*, and then notification by the Team Leader when that work package is complete.
- » **Progress information:** Regular progress reports from Team Leaders to the Project Manager, then reports from the Project Manager to the PSG.

Sending information out of the project

Think about the following areas:

- » **Business Case information and updates:** Including benefits projections, project costs and estimated delivery times in the project. (Please turn to Chapter 3 for more on the Business Case.)

- » **Financial information:** Funds spent or committed in specified reporting periods, typically monthly.
- » **Organisational departments and units:** So that they can be aware of what changes they need to make when the project is delivered, and the timescales for those changes.
- » **Progress information:** From the PSG to corporate management – or to the Programme Director if the project is part of a programme of projects.
- » **Stakeholder information:** Information targeted at specific stakeholder interest areas to keep key people on board, supportive and enthusiastic.

Writing a Communications Plan

The Comms Plan is simply a list of the communications that will take place in the project and how they will be conducted. You can see most communication needs up front, but others may come to light as the project progresses, so the Comms Plan must be kept up to date.



TIP

If you are concerned about project bureaucracy ('paper mountains'), as indeed you should be, you can think of plans such as the Comms Plan as a sort of checklist so you don't forget things. All project documentation should be kept as simple as possible while retaining its power.

The Comms Plan lists each communication with some or all of the information in the bullet points below. For some communications, you may also need to include details of an agreed format, such as with the layout of a dashboard for a project progress report (see the section 'Using a dashboard format for progress reporting', earlier in this chapter).

- » **Communication name:** An easily recognisable name such as 'Team Progress Report'.
- » **Security:** A surprisingly high proportion of projects include data that must be looked after. It's not just classified data within government, but commercially sensitive information involving clients or company plans, or privacy in the context of financial or medical records.
- » **Recipient(s):** Who'll receive the communication.
- » **Producer:** Who'll be responsible for the communication.

- » **Content:** The information content decided or agreed for the communication together with details of how it should be presented, such as with financial information being shown in tables.
- » **Frequency:** How often the communication will be made. This may be regular such as weekly or monthly, on demand as the need arises such as with problem reporting, or fixed to a particular event such as the Project Closure Report at the end of the project.
- » **Media:** How the communication will be made, such as phone call, e-mail, social media posting, website entry or business presentation.
- » **Data collection:** Any data that will be needed for the communication, how it will be collected and when. You may not need this entry as the data may be self-evident, such as for the agreed format for a progress report.

- » Planning for a successful project termination
- » Dealing with early closure of the project – a ‘crash stop’
- » Helping your team members move on to new work
- » Evaluating your project’s successes and failures

Chapter 17

Closing Your Project

One characteristic that distinguishes a project from ‘business as usual’ work is its distinct end – the point at which all work is complete, the results are achieved (of course) and reviewed, and the project team disbanded. However, with intense demands pulling you to your next assignment, you may need to show some determination in order to finish the project properly and thank all the people who made it possible.



KEY TO
SUCCESS

Okay, I know! You’re busy right? And you already have your head full of another project as this one comes to an end. But you really need to review the project just finishing to learn lessons. It’s been said that history repeats itself because nobody listens the first time. Past experience is really useful for future projects and you need to secure that valuable information.



TIP

Even if your own organisation won’t do project reviews, you can. At the end of a project go and hide away for an hour or two and write down things you would have done differently in retrospect and things that worked well. At the start of a new project, go through your record and you will be surprised at how useful it is. I know, because I do it!

Unfortunately, not bringing your projects to full closure hurts both the organisation and the people who did the work. When you don't assess the extent to which your project was successful, you can't determine whether you thought through, planned and performed the project well. Furthermore, team members don't have the chance to experience closure, achievement and a job well done.

This chapter shows you how to close your project successfully by checking that all the work is done, dealing with any immediate support and then thanking and releasing teams. In addition, this chapter helps you evaluate the project. That evaluation is to check on the achievement of objectives and benefits and to pick up on good and bad things that happened from which a future Project Manager can get valuable insights for a similar project. Of course, that future Project Manager may still be you!

Most projects run their full course, but occasionally you may need to stop a project early. The early closure is a sort of 'crash stop' if something goes significantly off target. You may need a crash stop if company profit or government funding is less than expected and the project can no longer be afforded. Or perhaps business circumstances have changed and the project is simply not needed any more. Whatever the reason for the closure, whether it be the planned closure or a crash stop, you still need an orderly shutdown.



TIP

In a crash-stop situation, still look to see what can be used from the project. It's often the case that something can be saved and used, so that not all the effort is wasted. It may even be worth finishing some of the products if they're almost complete and could then be used.

Staying the Course to Completion

Sometimes a project just sort of fizzles out and nobody is really clear whether it's still running or not. Projects should have a clear start and a clear finish. If you follow the product-based planning approach set out in Chapter 5, you automatically know when the main work of the project is over, because all of the deliverables are complete. You're now left with some close-down work to do, which also needs planning.

Thinking ahead about project closure

The time to start thinking about project closure is when you're setting up the project in the first place. However, be aware that you may not be able to plan the detail until you get close to closure and can see exactly what's needed. In that

sense, planning for closure is no different from the normal stage planning (there's more on stage planning in Chapter 9). If you wait until the end of your project to start thinking about closure, it may be too late to gather all the necessary information and resources. Instead, start thinking about project completion at the same time as when you prepare your initial project plan.

Looking at the options for closure

You have two basic options for how you fit closure to project stages. The options are to have a closure stage that runs after the final products have been delivered, or to make the shutdown work part of the final delivery stage.

You'll hear arguments for both closure options, but a strong one for having a closure stage is that frequently the final users of the project's products need some 'hand holding' in the early days, and also final adjustments may be needed before those products are completely ready for their operational life. Personally, I am convinced of the value of a closure stage but, as always, you can make your own mind up.

Thinking about closure from the start

Even in the outline planning, closure should be in everyone's mind, and especially yours. It's logical to think through the implications of project delivery, and that includes being clear on, and agreeing, what that delivery is. If you're delivering a project to someone else, you need to be absolutely clear on how the project will be handed over at the end.

The handover should be absolutely clear and agreed at the outset, and built into the plans. This is extremely easy if you use the product-planning approach covered in Chapter 5, in which the Work Flow Diagram not only shows the deliverables but also the order in which they occur. So, going back to the construction project, was 'Signed Handover Document' before 'Customer Building Check Report' or vice versa?



TIP

There may be particular conditions for that handover, such as that project deliverables are functioning correctly, but also regarding flexibility. For example, will the customer of the project really refuse to take delivery if the 24-month project comes in 10 days overdue? It's possible that the delivery date is fixed and paramount, but in most cases you will find there is some flexibility.

Dealing with a crash stop

If your project is shutting down early, perhaps because it's no longer needed because of a change in corporate policy, then you still have some planning to do

for closure. The emphasis is slightly different from a planned closure, so it may help to think about the following questions for your closure plan:

- » Can any of the project products (deliverables) be salvaged so that there is some benefit from all the project effort – not everything gets thrown in the bin?
- » Even though the project is closing, is it worth finishing any products? It doesn't usually make sense to stop work on a £100,000 product if it's within £1,000 worth of effort to complete and you can still use the product to save the organisation £50,000 a year.
- » Is a more thorough review needed to examine the causes of the fast shut-down and see whether it could have been spotted earlier that the project was no longer viable or needed? That knowledge could save money in the future.
- » Do you need to warn people that project staff and other resource – such as accommodation and equipment – will be released early?
- » Do you need to warn finance managers that the project budget now won't be fully used, and inform them how much will be released and what amounts are involved in what financial years, if the project was planned to run across a financial year end?
- » Do you need to stop supplier work prematurely and pay off remaining amounts on the contract? Of course, you'll be using that 'early shutdown' clause you had put into the contracts so you don't have to pay the full amounts!
- » Do you need to tell the stakeholders who wanted the project that it now won't be completed? That may need particular thought and care if some stakeholders needed the project badly and the early closure has significant implications for them.

Planning Closure

As you approach the end of the project, adjust your closure plans in the light of what's happening in the project, and then work them into detail so you know exactly what's involved and what time and resource will be required. As explained earlier in this chapter, this work is very much like the standard delivery stage planning that you do at the end of the preceding stage. The difference with closure work is that it tends to be a bit more unpredictable. For example, if those receiving the deliverables find that they are exactly as they wanted and everything works really well for them, it may be that only a few minor adjustments are needed. However, if users find that there were a lot of things that neither they nor the team had thought of, then rather more adjustment may be needed.

Outlining closure activities

Here are some examples of closure work to include in your plan:

- » Establish what adjustments, if any, are needed to fine-tune the project deliverables, and what priority they have. Some changes may be essential and the deliverables won't be properly usable without them. Other things may be cosmetic and 'nice to have' if they can be accommodated.
- » Establish the amount of funding needed for adjustment, and its source. If something is a change from the original requirement (which most changes at this point will be, or the products would have failed when tested), the customer may have to find extra budget unless the remaining change funds are sufficient.
- » Schedule remaining work to adjust products and support user staff in their early use of them.
- » Fix or confirm the dates for the final handover and project closure.
- » Check any business benefits that are immediately visible at the end of the project.
- » Check the plans for measuring and reporting benefits that won't be clearly visible until some time after the project has shut down.
- » Identify any elements of project control that will need to be passed forward into the working life of products. This includes version control systems, risk management and maintenance requirements.
- » Close contracts for project work and pass on to the business area any contracts for ongoing supplies and support. This includes authorising any final payments under the contracts.
- » Ensure that all support documentation is in place for ongoing maintenance and operations. You should have included such documentation in the products earlier in the project, so this item should be a fast confirmation to be quite sure that everything is in place.
- » Ensure that any necessary licences, permits or other authorities are in place, ready for handover.
- » Plan the release of project staff, because support requirements will wind down during closure, liaising as needed with their line managers, and then release staff in line with the plan.
- » List any organisational actions that will be needed or which are recommended after the project. This might include picking up on good ideas that the project didn't have time to implement, or adjustment of project management standards following experience in this project.



REMEMBER

Although not necessarily appearing on the official list of project closure work, some sort of project celebration is appropriate for a successful project. It's not only right to thank staff for their part in the success of the project, but it's a great boost to see and celebrate the result of all the effort.

Some organisational managers have a very strange approach to such celebration and may object to any funding of it because the staff were paid to deliver the project. It's unlikely, though, that they think that way as they support their football team. When the manager's friend shouts excitedly as the final whistle blows, 'We won! Our team scored two goals and we won two-nil – hurray!' does the manager reply, 'Well, it's what they get paid for, isn't it?' Seeing a result and then that result being recognised are both extremely powerful in motivation, as Chapter 14 explains.

Motivating teams to the finish line

As team members work to finish the project, their focus often shifts from accomplishing the project's overall objectives to what job they're going to do next. In addition, other stakeholders who were initially very interested in the project's results may become involved with other priorities and activities as the project continues (which means they are likely to lose at least some of their interest and enthusiasm for your project). Yet, successful project completion requires a coordinated effort by all key participants.



TIP

To reinforce your teams' focus and interest, try the following:

- » Remind everyone on the project of the value and importance of the final results.
- » Visit your teams, and reaffirm your mutual commitment to bring the project to successful completion.
- » Monitor final activities closely, and give frequent feedback on performance.
- » Encourage teams and individuals. You should be doing this throughout the project, but it is especially important towards the end.

Providing a Good Transition for Team Members

Team members can get very concerned when it's first suggested that they move over to work on your project. *Succession planning* – how team members get back into the mainstream after the project, or onto a new project – is extremely

important, as touched on in Chapter 12. During closure you not only need to make sure that arrangements are in hand for the return of staff, but that these arrangements are carried through.

Even if bad things don't happen to team members after a project, they're likely to worry that those things will. The worries include:

- » Someone else has been put in my job while I'm on the project, so I will be given a rubbish job somewhere else that I will hate.
- » My department will reorganise while I'm away and there won't be a place at all for me anymore.
- » The organisation is hitting problems and is downsizing, and as the department has managed without me during my time on the project, it will see me as disposable and the first in line for redundancy.
- » The project is quite long and I will get out of touch with what's going on and with the technical aspects of my normal job.

If team members have been assigned to you for the project, rather than the team being people in your own organisational area, it's important that they know what's going to happen to them at the end of the project, and then that what is promised actually happens. If they spend time worrying about their future, they're not going to concentrate too well on the final project work.



WARNING

If promises are made about transition but are then never carried through, there will be organisational implications for future projects. Word will get around that the assurances made by organisational managers are worthless, and people will fight tooth and nail not to get drawn into project work.

As far as you can, make the environment one where project work is seen as a career opportunity and something that's valued in the organisation. If it's not in your power to create that environment, do your best to influence others to see the logic of it.



TIP

As part of the transition work, consider the following:

- » Acknowledge and document team members' contributions. Express your appreciation to people for their assistance on your project, and share with them your assessment of their performance. Take a moment to thank their supervisors for making them available to your project, and provide the supervisors with an assessment of their performance.

As a general rule, share positive feedback in public; share constructive criticisms and suggestions for improvement in private. In both cases, be sure to share your comments with team members personally.

- » Help people with their personal plans for transition to new assignments. If appropriate, help people find their next project assignments. Help them develop a schedule for winding down their involvement with your project while making sure they fulfil all their remaining obligations.
- » If necessary, announce to the organisation that your project is complete. You may need to advise closure for reasons including:
 - To alert people in your organisation that the planned outcomes of your project are now available
 - To confirm to people who supported your project that their efforts led to a successful result
 - To let people know they can no longer charge time or resources to your project

Reviewing the Project

Lay the groundwork for repeating on future projects what worked well on this one (and avoiding what didn't) by conducting a project evaluation or review.



TECHNICAL
STUFF

A *project review* is simply an assessment of project results, activities and processes. It contributes to noting lessons learned (both good things and bad things) that will help improve project management on future projects.



TIP

With project reviews, avoid the term *post-mortem* because it conjures up the image of an autopsy to determine the cause of death! The term alone gives people a very negative outlook and suggests that the evaluation is looking only for problems and culprits. The project review is as much, or even more, about what went well as what went badly.

Beginning with the end in mind

As mentioned in Chapter 2, the second habit in Stephen Covey's book *The 7 Habits of Highly Effective People* is 'Begin with the end in mind'. That's great advice when it comes to project review. Right at the beginning of the project, you need to think what you'll review against. It makes good sense anyway to be clear about what the project is to achieve before you decide to do it. As always, don't get worried about this, because it doesn't have to be difficult. Just think about what you want to check at the end and then put in place the things that will enable you to carry out that check, such as:

- » Benefits
- » Finance targets
- » Meeting deadlines – perhaps key deliveries that need to be made during the project as well as at the end of it
- » Objectives – what the project is to achieve
- » Productivity levels
- » Quality
- » Risk mitigation

You can conduct a review by going around and talking to people, by a meeting that you can hold in person or by video or telephone conference. As always, face to face is better, so only resort to other means when you really must. A good review is where people can share their project thoughts and experiences openly and honestly.



TIP

As you plan your consultation with others, consider asking them about the following issues:

- » Could anything have been done better, faster or more cheaply?
- » If you did the project again, what would you like to be done differently in the light of this project experience?
- » If you did the project again, what would you like to see done the same way next time because it worked so well?
- » Was anything unnecessary and, if so, was that just because of the way things turned out or because, on reflection, the activity was over the top from the outset?
- » With any mistakes or misunderstandings, could someone have seen them coming and prevented them, or were they just the sort of things that you can never completely eliminate?
- » Could anything have made your work easier, such as more support or better equipment?
- » With regard to problems during the project:
 - Could you have anticipated and planned for them? If so, how?
 - Did you handle them effectively and efficiently when they arose?
- » Did you use the organisation's project management systems and procedures effectively and do you think that any of those procedures were less useful and should be changed for future projects?

Recording project information

For many of the review areas, having established at the outset that you'll review them, you then need to set up mechanisms to record the data so that you can review it at the end. Finance is an obvious one, and you'll undoubtedly be recording spending information anyway, but what about quality and what about team performance? Just how many products did fail test and need rework? Did the teams deliver products within the expected number of staff hours, or was the number of hours significantly less or more?

As explained in the introduction to this chapter, project review brings to light important information, and missing it out damages the organisation. Project review shouldn't normally be a huge amount of work, but the information that flows out of it can be invaluable for future projects.

Learning lessons and passing them on

There's a clear and obvious link between project review and lessons to be passed on to future projects, but the two aren't the same thing. Some aspects of review, such as whether the project met its objectives, are usually for this project alone. Similarly, lessons learned may be identified and passed on throughout the life of the project, particularly if it is a long one, not just left to the end.



REMEMBER

Identifying the cause of problems in order to avoid them wherever possible on future projects is very important, but the main thrust of lessons learned is to see what worked really well and pass on that experience so other projects can benefit from it in the future.

Having learned lessons, it's vital that they are passed on and not just left to get dusty along with the other project records in some forgotten corner of a corporate network drive. A central repository should exist somewhere so that future Project Managers can get at the lessons easily: have a look at the nearby sidebar 'Lessons – storage and retrieval' for more.

Measuring benefits

If benefits are visible at the end of the project, which some may be, no Sponsor is going to wait six months for a post-project benefits review if there's already some indication as to whether the project has been a success.

LESSONS – STORAGE AND RETRIEVAL

Writing down details of experiences in a project is pointless if nobody knows that the record exists, or if they do, what's in it and whether it's of any use. Unless you're a Project Manager with an interest in history and with far too much spare time on your hands, you're not going to have time at the start of a project to start wading through dozens of reports in the hope that that you will find one or two tips to help you now. Instead, you will want some fast reference system that takes you quickly to what you want to know.

A key factor in storing information is understanding how it will be retrieved. Lessons reports, as commended by some project approaches, aren't the best way of recording information. It may be convenient for the project to store data in this way, but it isn't convenient for those wanting to retrieve it, and if it can't be retrieved, what's the point of storing it?

Lessons information is extremely valuable. It's sad if a good project fails. It's even sadder if a second one fails because nobody took on board the lessons from the first one. As much as you can influence things, don't let that happen in your organisation's projects. Instead, press for a central repository of lessons where all Project Managers can find specifics on topics such as supplier risk and advice by type of project, to pull up lessons from similar projects from the past.

Many benefits won't be clear for some time. For example, if the project has put some new business process in place and at the end of the project the business staff start to use it, it's no good looking at time savings immediately. Staff will still be going slowly as they learn the new approach. The best time to measure the time saving of the new procedure will probably be in four or six weeks' time when things have settled down and staff are up to a normal speed of working.

Measuring benefits now

While the project is still running, there are either one or two end points where you may want to measure and report benefits. Whether there are one or two points depends on whether you have a closure stage or if closure is just at the end of the final delivery stage.

When final products are delivered, some benefits may be seen immediately, such as that maintenance costs drop as soon as the new machines are commissioned and the old ones are taken out of service, or that customer complaints are dramatically reduced the moment the new delivery procedures start up. You can measure and report such benefits at the end of the final delivery stage, which in some approaches may mark the end of the project.

If you have a closure stage, though, it may well be that the six-week measures can be taken within the life of the project, before final closure, and reported.

Measuring benefits later

If benefits will come on stream after the end of the project, either because you don't have a closure stage or because the benefits will take a longer time to become clear, then it's not within the remit of the project to measure and report on them. However, you should make arrangements for such measures to be taken and reported back to corporate management after the project.



REMEMBER

It's vital that the organisation does review project benefits systematically or else poor management decisions may be made in the future. If the bulk of a project's benefits only came on stream six months after the end of the project but were never measured or reported, the organisation may be reluctant to run a similar project, because the only information available massively understates the benefits. Or, vice versa, expected benefits never actually materialised and now the organisation runs a second project on the assumption that they were all delivered.

Here's an example of 'flying blind' because of lack of project review. I was talking to staff from a local authority in Scotland about their current project, its justification and its projected benefits. The staff told me that the project was justified because it would make a 5 per cent saving. When I asked how that had been calculated, the staff told me that it hadn't been, but it would surely save at least 5 per cent. When I asked if they would measure at the end of the project to check the saving, they told me that they never did, because the pressure to do other projects was so great they just moved straight on to the next one. I said, 'Don't tell me, you justify the next project on a 5 per cent saving as well!' I intended it as a light-hearted remark, but to my astonishment the staff replied seriously, 'Yes, that's right.'

Planning for Things After the Project

The final part of the closure work is to consider what work needs to be passed on to organisational managers (such as operations staff). The nature of this post-project work varies depending on the nature of the organisation and the project, but here are a few areas to think about:

- » Considering changes to organisational standards and procedures such as project procedures and risk handling

- » Making sure that if suppliers delivered sub-standard items that were temporarily usable, but not correct, that the supplier replaces those items
- » Incorporating maintenance work into the regular maintenance routine
- » Measuring and reporting benefits that will come on stream after the end of the project
- » Picking up on good ideas developed during the project but which the project didn't have time or money to do
- » Monitoring risk-related work that's ongoing, such as use of dangerous machinery
- » Continuing version control

In each case, discuss the work with the person who'll be taking it on to be sure that they're the right person and that they have the capacity to do the job. If there's a problem, discuss it with your Sponsor or the whole of the Project Steering Group, but make sure that it's resolved so that the item isn't left unmanaged.

5

Taking Your Project Management to the Next Level

IN THIS PART . . .

Understand the difference between a cyclical (Agile) approach and a linear approach.

Manage multiple projects with confidence, understand programmes and portfolios, and understand the project implications of being in a multi-project environment.

Recognise software's role in project planning, control and communication, taking on board its benefits and limitations.

Come to grips with Earned Value Management and all the terms and formulas that go with it. Discover how to monitor progress and spending using earned value in your project.

Understand project governance in the context of corporate governance, and what's involved in implementing effective project governance.

IN THIS CHAPTER

- » Contrasting linear and cyclical approaches
- » Recognising hype and guarding against misnomers
- » Getting to grips with the cyclical approach
- » Choosing the best method for your project

Chapter 18

Outlining the Cyclical (Agile) Approach

The cyclical (or *Agile*) approach to running a project has some real power and has gained a lot of attention. As is often the case when things become fashionable though, there's a lot of hype and this has two negative impacts. The first is that people assume it is a panacea and will do everything. The second is that people dismiss other things that are actually powerful and helpful. Organisational managers, because of the name, can latch on to the notion of an 'agile' approach promising faster and more flexible delivery without understanding the self-driving nature of the project that is so different to a more conventional business approach. This chapter redresses the balance by 'blowing the froth off' to see past the hype and misunderstanding.



KEY TO
SUCCESS

Be governed, as always, by your own judgement of what is the best management approach for each individual project. Don't be swayed by any hype surrounding a particular one, but don't be put off by the hype either and so fail to take advantage of something that could be really useful. At the end of the chapter, you'll find a sidebar giving examples of when the Agile approach will work well, when it won't, and when to use a hybrid approach.

If you think the approach would fit some of your projects there is lots of more detailed information available. As a starting point you may like to have a look at *Scrum For Dummies* 2nd Edition (John Wiley & Sons, Inc., 2018) and *Agile Project Management For Dummies* 3rd Edition (John Wiley & Sons, Inc., 2020), both written by Mark C. Layton, Steven J. Ostermiller and Dean J. Kynaston.

Understanding the Difference Between Linear and Cyclical Approaches

A usual approach to running projects is to go in stages. That is a *linear approach* where you start at the beginning and work through to the end. Such an approach fits something like a construction project where it is pretty difficult to put up the roof until you have completed the foundations and the walls. ‘But’, you think as you read this, ‘I am not in the construction industry.’ Well, perhaps not, but a large proportion of business projects (to indicate just one other area) lend themselves to this orderly approach too.

A *cyclical approach* is where development is done, yes, in cycles. Something is built, then added to, then added to again until there is a fully functional product, or at least one that is sufficiently functional.



REMEMBER

Sometimes it isn't necessary to finish something completely for it to be a successful and usable product and here Vilfredo Pareto's 80:20 rule comes into play (mentioned in Chapter 3 in the context of scope and the Business Case). The argument in projects is that 20 per cent of the effort often delivers 80 per cent of the business benefit, and the last 80 per cent of effort is spent pursuing the last 20 per cent of the business benefit.

Where it is not necessary to completely finish something, the concept of *time-boxing* comes into play. A fixed time is set – the time box – and the team builds what they can within that time frame. It may be limited though and need a management decision if it goes beyond a pre-determined limit. If the product is finished well within the time, it may not be worth going on to add bells and whistles that were not envisaged initially and which simply won't repay the work effort. Equally there may be minimum functionality and if it appears part way through that this won't be achieved by the end of the time box, then it should call into question whether or not it is worth continuing.

Seeing Beyond the Hype



WARNING

A problem with any allegedly new approach is that some people go overboard and claim that this is the latest advance, will never be bettered and is the best thing since sliced bread (and even sliced bread is poor in comparison). It can be suggested that it replaces all that has gone before and, indeed, that what has gone before was wholly inadequate. Such claims are damaging in two dimensions. First, people who accept the claims close their minds to other things that actually might have been better for a particular project. Second, when people hit a few problems, find that actually the hype isn't true and this isn't some awesome panacea, they turn their backs on it and so miss out on something that has a deserved place in the toolkit.

Unravelling misnomers

Perhaps like me, you have been faced with an argument where you can't seem to fault the logic, but where you know that the final conclusion is incorrect. I once studied a fairly long document for quite a while trying to see where the logic running through it was at fault, but I couldn't. Then I found the problem. Something near the beginning was both wrong and unsupported, and the logic then built on that. When I dismissed that initial wrong claim, the whole argument fell apart and the final conclusion was indeed erroneous.

It is now common to label linear projects as *waterfall projects*. The thing about a waterfall, it is explained, is that it can't go backwards. Once you have done part of a project, such as a development stage, you can't go back to it. Well, that's true, but then it's equally true of cyclical projects. Once you have completed a cycle you can't go back to it, unless you have mastered the mysteries of time travel anyway. What you can do is to repeat or adapt the work in another cycle.

In a linear project you can also repeat or adapt the work. If, for example, there is a sudden business change, you may need to adjust some of the products produced in a prior stage or even rework them completely. Under change control, as described in Chapter 15, you can simply add that work to the current or a future stage; no problem.



REMEMBER

It is because of the wrong concept in the widely accepted, and widely unquestioned, label of 'waterfall' that this chapter uses the term linear instead. While the word 'linear' is softer, you still need to be careful not to underestimate the power of change control even to radically alter the project should that be advantageous and justifiable.

Another descriptive term to guard against is 'traditional'. This is often used to describe linear approaches, but the term is loaded and brings with it the concept of being outdated or not fit for modern environments.

Separating fact from over-enthusiastic fiction

To address some of the arguments, here are the claims made by some cyclic approach over-enthusiasts to suggest that a linear approach is now both outdated and superseded. In a ‘waterfall’ project, they say:

- » **You can’t go back to repeat anything:** As noted in the previous section, you can repeat work if that is the best thing to do. However, you may already have known some repeats or adjustment would be necessary and planned for them in the first place. A simple two-step example is with a Draft Floor Plan and then a Final Floor Plan for an office refurbishment project.
- » **You can’t make changes:** Most long-established approaches to project management (envisaging a primarily linear approach) include change control and a change budget. If it wasn’t possible to make changes, why would either the change process or the budget be needed and form an important part of those approaches? Change control doesn’t prohibit project change, but rather resources and facilitates it but, as the name conveys, in a controlled way.
- » **You only make one delivery and that’s at the end:** Untrue again! You can and always could take products into operational use during the project if that was appropriate and advantageous. There’s a personal example coming up after these bullet points. In Chapter 8, looking at budgeting, it’s pointed out that in the cases where project products are taken into operational use before the end of the project you may have business benefits coming on stream during the life of the project.
- » **Everything goes too slowly:** Well lack of breakneck speed isn’t always a bad thing. But in any case, there are ways of working fast in a linear project, and that isn’t by cutting corners but rather by being open to doing things in an imaginative and flexible way.
- » **You don’t involve users, so the product is out of touch:** Untrue once more. It is quite normal to involve end users heavily at the outset to help specify what is required and then at the end to test things to make sure that they are okay. But you can always include users right the way through and include them in the project teams no matter what approach you adopt, and it sometimes makes sense to do exactly that. Chapter 12 explains that there is even a user manager in the Project Steering Group (PSG) to make absolutely sure that the users are involved wherever and whenever needed, and that manager is responsible for providing the user resource to the project. That structure is not unique to this book but rather is a standard one.

DIGGING INTO THE BACKGROUND OF CYCLICAL PROJECT MANAGEMENT

The idea behind cyclical development isn't new. In the IT industry, *incremental development*, including prototyping, has been an option for a very long time. It is a development model where a system evolves in a sequence of forms from the first idea through to a stable and reliable one suitable for operational use. Each step produces a set of products which is *baselined*, which means a record is made of what versions of what programs make up the development at that point and which is considered to be good. Then the team works on the next step. If all goes well and the development produces another good set of products, some refined from before and some new ones added, then those are baselined. If things don't work out, the team can reconstruct the previous position from the baseline information and strike out again in a new direction. The approach of cyclical development has now been applied outside the field of IT, though some already used it in a less recognised way, and the benefits can be significant.

The first major project I was ever involved in was as a junior business manager, not a project specialist. I was a user representative on a large and high-profile computer project. For legal reasons the system had to go live in September of the development year. However, some of the accounting facilities wouldn't be needed until the end of the financial year (the following April). The main functionality indeed became operational in September as planned, but the project then continued and the end-year accounting facilities went live some months later. So in this linear project, there wasn't just one big delivery at the end and as a user I was involved right the way through.



TIP

The problem in the whole area of misnomers and incorrect criticisms is that many people entirely dismiss valid and helpful tools because they are seen as outdated or problematical. Other valuable tools have been lost to the project community over the years by strong promotion of something new, not merely on its strengths, but by trashing what went before. The correct position must surely be to welcome any useful new approach or technique as a valuable addition to the toolbox, but be prepared then to use whatever is best for each individual project.

Implementing a Cyclical Approach



REMEMBER

There are two elements to the cyclical approach as it is mostly used currently. *Agile* is a generic name for the whole approach, and under Agile there are particular specific methods. One of the best-known methods is *Scrum*. The explanation that follows is not strictly based on any one but rather is a high-level description to give you a flavour of how it can work.

Understanding roles and functions

One of the ideas of the cyclical approach is that teams are self-managing. There is no Project Manager and the teams themselves decide on how to get organised and who is to do what. The only guidance is from someone who has a good knowledge of the method to make sure that everyone is following it.

You don't necessarily have to go as far as self-managing teams, but if you do as some Agile approaches require, the following roles – or similar ones – come into play:

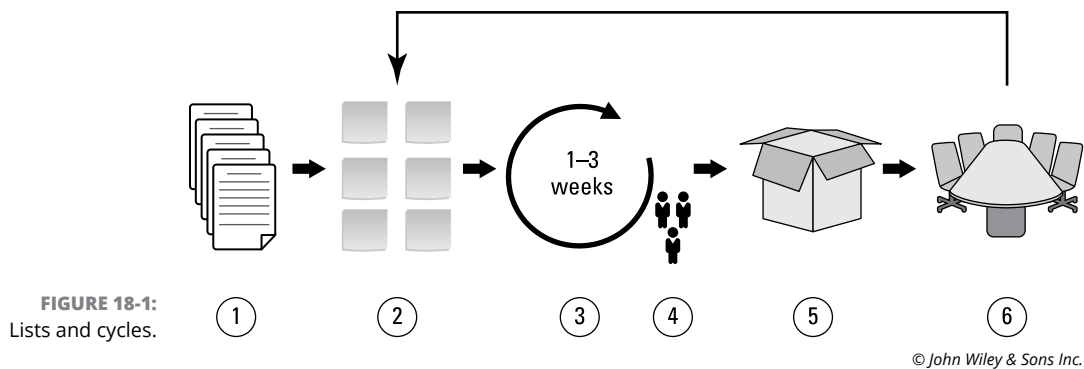
- » **The user or owner:** The first role is someone from the user area who will say what is wanted. They work with the team to specify the elements that the project is to deliver and to check at the end of each cycle to see that what has been produced, so far, is in line with what's wanted. The user will also be involved in discussing priorities and that's usually which features are the most valuable to the users in terms of functionality or benefit.
- » **The method expert:** The method expert is someone who thoroughly understands the exact approach being taken. The team can consult this person and ask questions, but the expert also keeps an eye on proceedings to check for alignment with the specific cyclical approach.
- » **Team members:** The third role is the team members who will do the work. They decide themselves how the work will be allocated between them and what to tackle next. There is an emphasis on the team here that everyone pitches in to do what's needed. If a job needs doing, all are prepared to help where they can, irrespective of whether or not it is their particular area of expertise.

Running development cycles

The project then gets under way with identifying what is to be done, then running a series of development cycles, as shown in Figure 18-1. The numbering in the next four sections explains the points on the diagram.

1: Building a list of features

The user and the team work together, with the main input coming from the user, as to what is wanted. The individual features are sometimes called *stories*. These stories are listed and each one is discussed to estimate what work effort will be required, using a defined unit of work to help with comparison, and how important that story is relative to the rest. The stories are then sorted into order, for example in order of benefit to the user.



2: Planning a cycle

The cycle, known in one method as a *sprint*, is planned by selecting a subset of stories from the backlog and checking out the expected work effort of each. The concept here is to come up with a set of things that make a ‘potentially shippable product’, even if the functionality or coverage is limited at that point. That set of stories forms the development list for the cycle that together can be created within a set time frame. A cycle is often planned to last no more than three weeks. The plan also looks at who is to do what, within the constraint already described that everybody on the team will do anything they can to help deliver.

3 and 4: Running a cycle and holding daily meetings

The cycle starts and the work gets underway. Each team member works as planned and every day, usually near the start of the day, there is a short team meeting. In this meeting, progress information is shared between the team members and those members say if they have hit any problems or need any help from others in the team. Progress is sometimes measured on a chart that shows the overall number of units of work in the cycle, and how many have been achieved so far. This helps show if things are on track to develop what was planned by the end of the fixed period for the cycle.

5 and 6: Delivering and reviewing

At the end of the sprint, the team presents what they have created to the user, though others may be invited along as well if they have an interest. There’s discussion on this, and perhaps new things will be added to the list of required features as a result. The team then discusses how the work went and if the way of working could be improved for the next sprints. Then it’s back to sprint planning for the next sprint, and the cycle goes round again.

Choosing The Right Approach for Your Project



REMEMBER

Nothing in this section is to say that iterative approaches aren't powerful and useful, because they are. What is suggested here is that you consider all approaches as part of the tool box and pick the right one for your particular project. Now that may be different from the approach that you used on your last project, and different again from the one that you will use on your next one.

In short, keep your brain in gear, your options open and do what is best!

Basing your decision on the project's characteristics

Many projects, not least in business, construction and IT settings are linear in nature and to be effective the organisation needs to check the characteristics of the work ahead carefully before selecting the best way of tackling it.



TIP

When thinking of how to control the project, consider carefully its characteristics. As you do so, remember that a linear approach does not prevent things being taken into operational use during a project, or things being changed. Look to see if there is a clear sequence, such as with design first and development afterwards, or whether something could advantageously build with a cyclical approach with things added in to build up to the final completion. Consider if you will be wanting to release 'potentially shippable' – usable – products, or if that would just lead to confusion and error. With a commercial product, for example, you may upgrade it every year or two, but you won't be releasing new versions to your wholesalers or retailers every three weeks and expecting them to destroy old stocks. Nor will you want to upset customers who have just bought an item, only to find it immediately replaced by a more functional one.

You may opt then for a linear project, a cyclical project or a combination of the two.

Seeing the gaps in cyclical approaches

If a cyclical approach would be good for the project, that's great but, as frequently announced on some London Underground platforms, 'mind the gap'! Your organisation and the individual projects should check to ensure that the following bases are covered:

- » **No business perspective:** If someone has two roles, one role will tend to get neglected. In this case of someone covering both the business and user interests, it is the business viewpoint that gets neglected. In the cyclical approach, there is no distinct business interest, just a user who should keep an eye on the business aspect. The user may want something, and the team may have been dreaming for years of having the opportunity to build one of those, but is it worth it to the business? The cold 'financial' type evaluation can be pushed into the background. Some Agile approaches do offer more business input, but not all, so watch out for this.
- » **Scope creep:** That comes with the territory of people adding in things that they want and with no fixed end date in many cases, that becomes all too possible.
- » **No clear project cost:** Where there are an unknown number of iterations and things can be decided on the fly, the business may be being asked to 'sign a blank cheque'. The most expensive thing in projects has long been the staffing cost. So just how long are the users going to be tied up, and just when will the developers be available to tackle another important project that must be delivered before the end of the financial year? Again, some Agile approaches modify this, but be vigilant.
- » **Delivery of potentially shippable products throughout:** This just can't be done in many cases. That applies clearly in construction projects whether that be designing a new aircraft or building an office block, for example. But in a fairly simple business project to design and implement a new set of electronic forms it doesn't apply either. They must be released as a cohesive set to replace the existing ones, not one at a time, and they can't be full of problems that are fixed by adjustments in later iterations. They are legally binding and must be watertight and consistent with each other from the start.

Getting it right, cyclical or not

Those involved with cyclical projects must perform their roles properly, apply the method properly and be thorough in getting an understanding of both. It is interesting to see that, because the motivation of quite a few people was that cyclical projects escaped the overheads and work of linear approaches, they are now showing the same attitude with their use of a cyclical approach and not doing that properly either.



REMEMBER

The bottom line is that whatever approach you decide on for your project – be that cyclical or linear – you need to work carefully and conscientiously, and focus on successful delivery.

LOOKING AT REAL-LIFE PROJECT EXAMPLES

You may decide that a linear approach is best for your project, or cyclical or even a hybrid approach – despite the third one giving some cyclical enthusiasts apoplexy! Here's a project example for each of the three approaches.

- **Example 1 – A museum exhibit:** Museums have working, interactive, computerised exhibits which are interesting to all, and one in London has an exhibit showing the working of a volcano. The project to develop this exhibit lends itself very well to a cyclical approach in line with the concept that you develop a potentially shippable product in every cycle. An initial model can be built with some functionality that can be put on display and visitors, especially children, can enjoy using it. However, the project can continue to develop more functionality – magma coming out through side vents at the click of an icon perhaps! The display in the museum can be updated with that new version and visitors can enjoy the enhanced exhibit. Meantime the project continues, upgrading the working exhibit each time, until all the desired features and information panels have been built into the display, volcanic bombs and all!
- **Example 2 – A computer system holding technical data:** In my past life as a systems analyst and project manager, I worked on a substantial system to control a technical area where no risks could be taken at all with the integrity of the data. It was an all-or-nothing system to replace an outdated one and there was no way that there could be a duplicated database with some functions being on the new system, gradually being increased, while some remained on the old system, gradually being decreased. At the end there had to be a full take-on of data from the old system, with data checks done in that process to confirm the integrity of the inbound data, then the new system started up. Having a time of *parallel running* (using both systems side-by-side) was impossible because a shortage of experienced technical staff meant that the work couldn't be done twice, and anyway it would have made for potential problems with maintaining data integrity across the two, particularly where the old system had problems solved by the new one and operated in a different way with different data format as well. This was a linear development but with far more complexity and control needs than explained here!
- **Example 3 – A re-branding project:** In one large pharmaceutical company I worked with, it was decided to rebrand a household medical product with a new look involving new packaging. The staff had done this before with other products and told me that they never know how long it will take to come up with a new look. Sometimes someone on the team comes up with a great idea and it is worked up into full detail in a few hours. Other times, it can take three weeks to develop an idea and turn it into a good and practicable design. Most times, the design timescale is somewhere in the middle. When a new design is finalised,

there is then a strict sequence to follow to a timetable that is then determined and fixed. Artwork has to be prepared, then sent to the manufacturers to prepare the containers the outer card packaging, then the factories told when to swap over to the new packaging on the production lines. Distributors (in this case worldwide) are warned that the product is to be relaunched, warehouses must be advised to allocate space for the new-look product alongside the old until the launch date, then the old stocks withdrawn. You get the idea. The staff in the company are well used to this process and the need for a careful, orderly progression to coordinate a launch worldwide. The pattern here then is of a project where the first part is cyclical and the second part is very much linear. There is not going to be a series of 'potentially shippable products' because that would clearly be chaotic and uneconomic. Neither are there two projects here, the first to come up with the design and the second project to put it into effect with production and distribution. It's one business process – re-branding – the same team is doing the work throughout, and the management oversight and control is the same. If it is said that it must be two projects, then it's a case of the tail wagging the dog, to use that excellent expression. The work is being fitted around the constraints of the approach, not the approach fitted to the needs of the project – back to the advice I share Chapter 1. The focus must be on the project, not on the approach; the approach is merely a tool to assist with successful delivery of the all-important project.

- » Understanding programmes and portfolios
- » Looking at the implications for your project of being in a multi-project environment
- » Seeing how being in a programme can affect your plans
- » Looking at project interfaces in a multi-project environment

Chapter **19**

Managing Multiple Projects

This chapter is a little different to the others in the book because it gives you some information and advice on working with multiple projects. You may find this guidance helpful for two reasons. The first is that if your project is part of a group of projects, it will affect how you set it up and then run it. The second is to give you some outline guidance if you end up being responsible for a group of projects yourself, rather than just a single one. I also give some insight into managing a wishlist of projects where organisations, or specialisms within them such as IT, maintain a running record of projects they would like to tackle in due course.

Business-based organisations are now more aware of the need for projects and project management. Unfortunately, in the UK at least, this has led to over-excitement in the marketplace over what people can sell to make money out of this increasing interest. After intense interest in some project management qualifications, attention turned to finding the next big catchphrase and money-spinner, and that catchphrase was programmes; and now that many people have become qualified in programme management, attention was turned to portfolios.

Programme and portfolio management are both important (don't worry, the terms are explained in this chapter), but you need to be careful to apply the disciplines correctly and intelligently so that you don't incur unnecessary overheads, bureaucracy and delays on your projects. Sometimes, even though people may be banging on about programmes, you might even raise eyebrows by arguing that your project simply shouldn't be part of the programme.

This chapter helps you understand the nature and dynamics of programmes, including different types of programme and how a portfolio works. It gives you advice on when a group of projects need to be in a programme and, importantly, when they don't.

Talking the Talk

An area of confusion over terminology is with the terms 'programme' and 'portfolio'. The two terms are widely used and also widely misunderstood so it's important to be clear on both.

Defining a programme

A *programme* is a group of projects that:

- » Are connected in some way, such as each project needing deliverables from the others in order to proceed
- » Need to be coordinated and managed together as a group, not merely as separate projects
- » Need specific people to coordinate the projects as a whole as well as people to deal with the management of each of the member projects

A great definition of a programme is from something that has absolutely nothing to do with programmes! It's a quotation from a leader of the Red Arrows – the Royal Air Force aerobatic display team. The leader said: 'My job is to fly nine aeroplanes as though they were one.' That's a brilliant description of the tight formation flying that the Red Arrows and similar aerobatic teams do, but it's also a great picture of a programme. Running a programme is like flying a formation of projects. Like a Red Arrows aircraft, each project is distinct, but the projects within the group need to be closely coordinated.



In the rush to establish project-related qualifications with associated training courses in the UK, the term *programme* got hijacked for a particular programme approach and qualification. It was taken to mean strategic programmes, as if no other sort existed. In fact, other sorts of programmes do exist, and you need to be aware of them. Having said that, some people set up programmes when they're not needed and other people make the opposite error of not setting up programmes that are needed, all because of that restricted understanding of the word *programme*. Make sense?

Have a look at some different types of programme and all will become clear:

- » **Coordinated delivery:** This is where a group of projects must finish at the same time and need to be carefully controlled in order to do that. Often there is technical coordination and some interdependency between the projects as well. An example is developing a new version of office software. Different projects will update the word processor, spreadsheet, database and presentation graphics components, but they must have the same look and feel and all be brought to market together as a set.
- » **Linear:** A common mistake people make with projects is trying to do something too substantial and launch it with one big bang. That's a very high-risk strategy and it often makes more sense to break the job down into a consecutive series of smaller projects. It's then possible that two or more of those projects can run in parallel, but that's unusual and it's more often a linear string of projects.
- » **Strategic:** This is a rolling group of projects that will completely change the way an organisation operates. It's common that this sort of programme will last around five years. Although some projects are known at the outset and can be started when the programme starts, others emerge as the programme continues.
- » **Heavy product interdependency:** Where you discover significant product interdependencies between projects, the complexity is such that it makes sense to have an overall plan and exercise overall control to manage those interdependencies. Have a look at Chapter 5 for more on products and product planning. There's more on this later in this chapter too.
- » **Heavy resource interdependency:** Where a group of projects are calling on the same resource pool, some coordination is necessary or the projects will all go rapidly off plan when the projects find that the people they need at a particular time are already fully committed on one of the other projects. Resource levelling is needed in each project anyway, and this will deal with project dependencies – Chapter 6 on activity planning explains this resource levelling. But where that resource planning between projects gets really complicated, it can make more sense to establish a higher management level

above the projects with an overarching plan and resource schedule. This higher-level resource plan helps avoid conflicts where two projects want the same staff at the same time, and helps managers look quickly at the implications across projects if a project experiences a delay and doesn't release staff at the expected time.

Defining a portfolio

A *portfolio* is simply a list. It would be nice to be really complicated about portfolios so we can sound clever, but basically a portfolio is a list of projects that your organisation would like to run as and when resources become available – staff time, money or both. There may be a single list across the whole organisation, or separate portfolios may be maintained by different specialisms or departments.

The management of a portfolio concerns the control of how a project gets onto that list in the first place, how the list is organised, and then how the project gets off the list. A project may be taken off the list because it's now underway or because it no longer warrants a place there, perhaps because changed business circumstances mean that the project is no longer needed.



WARNING

As with so many buzzwords, a lot of confusion has arisen around the terms *programme* and *portfolio*. Some organisations talk about their 'IT programme' and their 'accommodation programme'. Actually, the IT programme is just a list of pending IT projects. There's no coordination of projects involved, so actually it isn't a programme at all – it's a portfolio but made up of a single type of project. Keep quiet if it's you that controls the list and your organisation now calls you a 'Programme Manager' – with the appropriate pay rise – because of it.

Deciding on a Programme

So when is a group of projects just a group of independent projects, and when is it a programme? All sorts of complicated arguments can be brought into play to answer the question, but a simple way of cutting through this is to look at whether the additional level of management is justified. If you appoint a programme structure with programme staff, is it really necessary; will it earn its keep?

In many cases, the line between having a group of separate but related projects and having a programme is a blurred one. In fact, that's what causes many people to become confused and set up programmes where they're just not needed. Just because a project has a product interdependency with another project doesn't

mean that the two projects are part of a programme. It just means that two projects have a product interdependency! The respective Project Managers may be able to control the product transfers quite happily between them with the interdependencies shown clearly on their plans. The same applies to shared resources.

The balance tips where it's more effective, including cost effective, to have a higher level of management doing the coordination. After the programme level of management has been established, its cost effectiveness may then be enhanced by providing services that give economy of scale, such as having centralised project administration for all the projects in the programme and doing some management functions such as risk management. If the same business risk could affect five out of the eight projects in the programme, it often makes sense to monitor it once at programme level rather than the five affected projects each having to monitor that same risk.

A programme has its own level of planning, management and control that's positioned above the projects. It follows that you have a number of things to bear in mind if your project is part of a programme.

Understanding programme roles

The roles used at the programme level may vary a bit depending on whether you're using a particular approach to programme management, but typically there will be the following roles:

- » **Programme Director:** Someone who has overall responsibility for the programme and all the projects that make it up. This is similar to the Sponsor of a project, but at a higher level.
- » **Programme Manager:** A person with project management skills who can draw up and maintain the overall programme plan. This person will liaise with the Project Managers of the projects in the programme.
- » **Programme Administration:** An administrative function that can offer support to projects as well as to the programme level. It may be in the form of an office called the Programme and Project Office (PPO) with a manager and other staff.

In some circumstances it may be helpful to have one or more additional roles too such as:

- » **Programme Risk Manager:** As the name suggests, a risk specialist keeping track of risks across the whole group of projects.

» **Business Change Manager:** If the programme is causing substantial change across the organisation, this person will liaise with departments to ensure that the change is coordinated so it happens smoothly and the interfaces are properly thought through.

It's possible and sometimes advantageous to have staff from the programme level, often the Programme Director, also taking a role on Project Steering Groups (PSGs); it forms a natural link between each project and the programme. However, if some projects have programme staff directly involved while others don't, it can sometimes lead to favouritism when it comes to resource, so such role sharing needs to be done carefully and thoughtfully.

Fitting in with Programme Plans

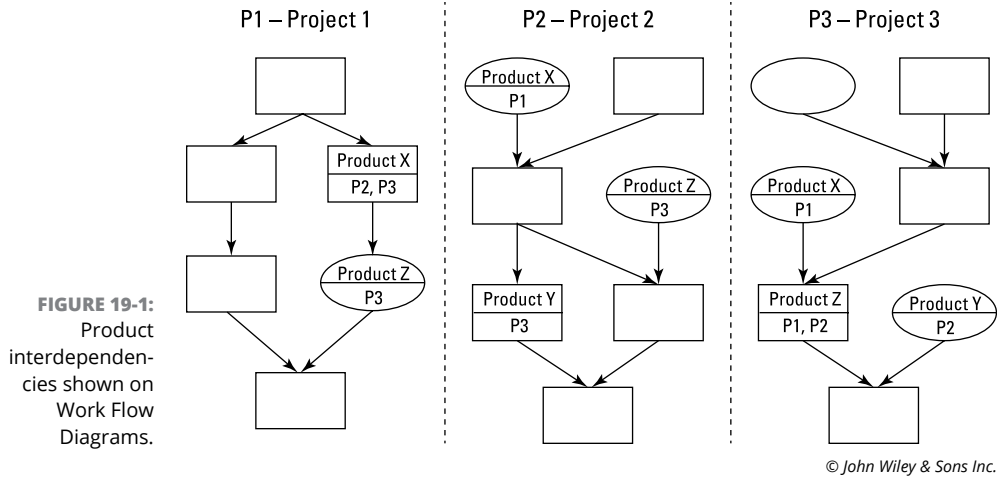
A programme has an overall plan at a higher level of detail than the Project Plans. This shows dependencies between projects, both product dependencies and resource dependencies.

You often sketch out the plan for the programme first and then break it down into the parts that will become the member projects. In other cases, though, the component projects will already be clear, and after a decision has been made to group them into a programme, the Programme Plan will be drawn up from the Project Plans, with particular attention now being given to the interfaces.

Mapping interdependencies by product

An excellent tool for mapping product interdependencies is the Work Flow Diagram. Chapter 5 covers product planning in the context of planning for a single project, but you can adapt the Work Flow Diagram to show dependencies across projects in a programme. Figure 19-1 illustrates this application of the Work Flow Diagram, but if you haven't yet read Chapter 5 it's probably best to do so before coming back to look at Figure 19-1.

Figure 19-1 uses an approach and notation which I developed for use in programmes to show the product interdependencies. Team products are shown in rectangles, and where the product is being passed to one or more other projects as well as being used in its own project, a bar across the bottom of the rectangle shows that and the references below show which ones those are. Where an external product has a bar across the bottom of the symbol, it shows that the product is coming from another project in the programme, and the notation shows which project it's coming from. Figure 19-1 shows the three Work Flow Diagrams from the three Project Plans, but the Programme Plan can show these product dependencies in one view and without all the detail of the Project Plans.



TIP

Colour-coding is particularly effective on cross-project diagrams, but keep the bar and the identifier on as well to clearly identify the products involved.

I was once asked to run a planning workshop in a UK police force for a programme of three projects. The Programme Director, a senior police officer (superintendent) was in the workshop together with the three project managers and one or two of their team members. There were two large and important projects which I'll call A and C. Each had a police inspector as Project Manager (grades are important in police forces!) Oh yes, and there was a small project that I'll call B which was much less prominent but needed to finish at the same time as the other two; a sergeant was the Project Manager. The Programme Director had already had discussions with the Chief Constable to secure staff for the two big projects, and the less important one would follow on later. Some outline planning had already been done, but with high-level Gantt Charts showing major activities.

I taught this group how to plan using products, and then the teams drew up the Work Flow Diagrams for their projects. What they uncovered astonished everyone. Figure 19-2 shows the initial concept of how they thought the programme would run and then what the teams found.

The planning teams discovered that products being developed as part of Project B were actually needed early on in the other two projects (product interdependencies). As we were discussing this, the superintendent suddenly dashed out of the room; the only time in my time in training and consultancy that anyone has ever run out of the room! When the superintendent came back about 15 minutes later, I asked him if he had had an urgent message, perhaps an operational emergency. He replied that he hadn't but had raced back to his office to fire off an e-mail to the Chief Constable to say, effectively, 'Never mind about Projects A and C. I need

resource for Project B and I need it NOW!’ Rather than Project B being an also-ran to be completed towards the end of the programme, it was suddenly top priority, very important and needed yesterday!

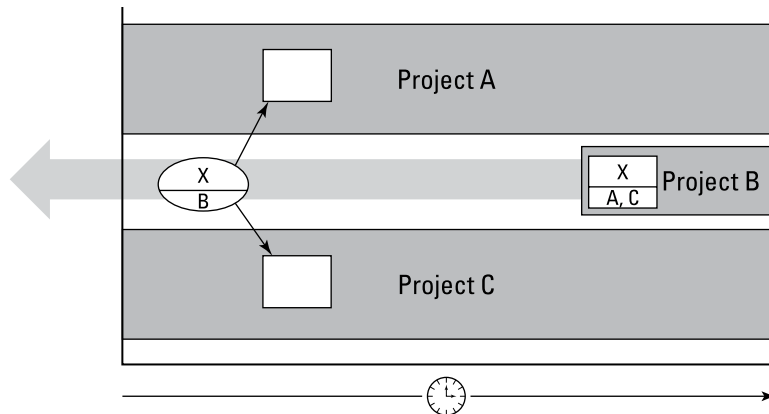


FIGURE 19-2:
Programme
management
example.

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When the police teams looked at the diagrams and the products again they saw that it was obvious that the two bigger projects would need some of the output from the smaller one. Well yes, it was obvious now, but it hadn't been before and everyone had missed it. Score one – yet again – for product planning and the Work Flow Diagram, but this time in the context of programme planning.

Controlling a programme

Programme-level controls focus primarily on coordination, not on running the projects. Having made that point, some central control can also be exercised in other areas, for example:

- » **Business Case and benefits projections:** The project's Business Case may be part of the Business Case for the whole programme (Chapter 3 explains the Business Case). Therefore, any changes, such as in the levels of benefit anticipated, may have programme implications.
- » **Change control:** Each project may have a change budget, but the programme may hold a bigger change budget. If someone in a project comes up with a really good idea but it's beyond the project change budget to implement it, the Sponsor can bid for programme change funds.

- » **Problem reporting:** Some problem reporting may have to be copied to programme level if there are implications for other projects. You need to be especially careful to consider impacts on other projects when looking at things happening in your own project.
- » **Progress reporting:** In order to monitor and control the interfaces between projects and keep them coordinated, the programme staff will need accurate progress reporting from projects. This can often be simple, with the progress report that is prepared by the Project Manager and passed to the Sponsor or PSG simply being copied to the programme level. In addition, milestone reporting with Work Checklists is particularly effective – see Chapter 15 for more on Work Checklists.
- » **Reporting line:** The programme management level will change the reporting line from the Sponsor or PSG. In a stand-alone project, the Sponsor would report on the project directly to corporate management. In a programme, the Sponsor normally reports to the Programme Director and the Programme Director then reports to corporate management.
- » **Risk management:** Some risk monitoring and management may be carried out at programme level. In addition, projects may need to notify new risks so that a check can be made at programme level to see whether they affect other projects in the programme.

For coordination within the programme, two-way communications are essential so that each project keeps the programme management well informed on progress and resource utilisation, and to make adjustments in the project in response to information and instructions from programme management because of what's happening in the programme. Using the resourcing example, if another project experiences a delay, it may result in a delay to the release of specialist staff due to work on your project, so you will need to re-plan accordingly.

Managing a Portfolio

Managing a portfolio involves three key areas:

- » Controlling the entry of projects onto the list
- » Determining priorities and dependencies between the projects
- » Regular review of the list to reassess priorities, confirming that projects should remain on the list and removing them if they shouldn't

Understanding the project implications

To get a project onto the portfolio, the person wanting the project will normally be asked to produce a paper to outline:

- » What the project is about
- » Why it should be run, including an estimate of benefits
- » How much the project will cost and how long it is expected to take
- » How the project fits with other projects, such as by showing dependencies
- » How the project fits with organisational strategy
- » What call the project will make on staff resource, particularly specialist or scarce resource

If you've already read Chapter 2, you may think that the content of the bullet points sounds familiar and rather like the outlining work you do in the stage Starting the Project. You'd be right to think that, and in fact there is sometimes a break between the work of Starting the Project and the Planning Stage while the project waits for authorisation and resource. In turn, that can mean that someone other than you produces the Outline, and when you get the go-ahead to start the project, you need to review that Outline before going on to full planning. It could be that some things have changed in the time since the outlining was done and you get the go-ahead to start the Planning Stage.

Maintaining the portfolio

For a project to get onto the portfolio in the first place, the person suggesting it should demonstrate that the project is justified. That should include the business view, and depending on your organisation there may be a need for a costing or other justification (such as that it is a mandatory project) or even a simple Business Case. Chapter 3 provides a lot more information on project justification and Business Case preparation.



WARNING

A danger is prioritising projects according to the amount of benefit that they will deliver. Focusing solely on benefits is wrong, contrary to what is suggested in some approaches to portfolio management, because benefits are only part of the story. Those responsible for the portfolio should consider:

- » **Benefits:** Yes, they're important.
- » **Mandatory projects:** It may be that an impending change in an industry code of practice or the law has been announced that means that a project must be

run within the next 18 months to ensure that business procedures are adjusted to comply with the new requirements, whether that gives benefits (other than not going to jail!) or not.

- » **Organisational imperatives:** Imperatives include organisational strategy, but also tactical considerations such as the need for a 'quick win' project to boost confidence.
- » **Project dependencies:** A low-return project may need to be run before a high-return one because it delivers things that the second project will need.
- » **Return on investment:** A project with a modest return of benefits may be very attractive because it will be fast and cheap to run. A project with much more benefit may be much more costly and take a longer time before giving a return.

You should, then, regularly review the portfolio to check that each project still deserves a place on the list, and to adjust priorities where necessary to reflect changes in the organisation and new projects added to the portfolio.

IN THIS CHAPTER

- » Recognising software's role in project planning, control and communication
- » Sizing up the benefits and limitations of technology in project management
- » Making data available and supporting virtual teams
- » Finding computer software and services for free
- » Anticipating the rise of Artificial Intelligence

Chapter 20

Using Technology to Up Your Game

An important part of project management is dealing with information – getting it, creating it, storing it, analysing it and sharing it. But a key to successful project management is to do that intelligently both to exercise control and to help people on the project to work together as effectively as possible.

Technology is providing ever easier and more affordable ways to handle information and for people to work together. For example, office *apps* (applications – programs) allow you to enter, store and analyse information and then present the results in professional formats. Collaborative software allows team members to work together on documents when working remotely from each other. E-mail allows easy and almost instant written communication with people in all locations at all hours of the day (and night!), and telephone conferencing and video conferencing allow you to talk to them too. Project scheduling tools allow you to draw up activity networks and Gantt Charts (see Chapter 6) much more quickly and easily,

but then also help you to make changes easily and rapidly and so keep the plans up to date. But as you're probably well aware, technology has its limitations and can become a distraction and even a problem, as you surely know if you have to plough through a massive e-mail inbox each morning.



Bigger isn't necessarily better when it comes to technology in projects. Be discerning before you invest in large-scale project tools with big learning curves when all you need for your current project, if it happens to be a simple one, is some basic and easy-to-use apps.

This chapter shows how you can use technology to help in those parts of your project that will really benefit from it.

Using Computer Software Effectively

Software for cooperative teamwork, project planning and reporting now looks so good that you may be tempted to believe it's all you need to ensure your project's success. However, even though the software works effectively and efficiently, it *can't* do things such as:

- » **Ensure that information is timely and accurate:** In most cases people will jot down things such as time spent on activities on paper, and then enter the time sheet information into a computer. However, the software can't make sure that a team member inputs the correct data.

For example, you can get time-recording software to reject entries with an invalid project code. However, you can't set the package to recognise hours charged to the wrong project using a valid code.
- » **Analyse all information or make project decisions:** Software can help you see the impact of several possible courses of action. However, the package can't take into account all the objective and subjective considerations that you must weigh up before making a final decision.
- » **Create good working relationships:** Despite some people's fascination with social networking, computers can't ensure trusting relationships between people working together on a team. Technology can even make relationships more difficult to develop. Developments such as video communications help because they give some ability to see facial expressions and body language, but it's still nowhere near as good as face-to-face communication, and the limited duration of each session isn't the same as working alongside a colleague in a team room.

So how *can* computer facilities help you during the life of a project? This section looks at what functionality is available and how technology can help you manage your project.

Seeing what software you need

You'll find computer apps helpful in four core areas:

- » **Office software:** This is the standard package of a word processor, spreadsheet, presentation software and, possibly, database and contacts (address book) functionality. The presentation software gives some graphics capability, and perhaps enough for your needs, but you may choose a different package for producing diagrams.
- » **Project management software:** Well, so-called project management software anyway. The 'so-called' is because the packages are mostly scheduling software to do activity networks, Gantt Charts and resource scheduling. There is much more to project management than that, as you can discover by flicking through this book.
- » **Collaboration software:** Where people in various locations (and perhaps just working from home) can work together on the same document or diagram over the Internet.
- » **Communication software:** This includes e-mail, social media and, importantly, video conferencing.

An area where software may be necessary, not merely a benefit, is if you're maintaining a website for your project and need web management facilities. Then again you may find software useful for things such as version control, Mind Map diagrams and time management. This chapter focuses primarily on the core areas that cover the bulk of the project management work you'll encounter.

Understanding where to use software

It's usually pretty obvious where using a computer app will help you in your project management, but there are some less usual ones which you may not have thought of, so this section points out a few.

Office apps

Office apps are important for things like reporting, but remember that a report may be in the form of a presentation to a Project Steering Group (PSG) or project board, where the presentation element of the software will be more than useful. A very common package is Microsoft 365, but there are others.



WARNING

USING THE BEST SOFTWARE FOR THE JOB

Try to resist, and then try to reverse, illogical software standards imposed by project offices that have a primary objective of making centralised reporting easy rather than making project management effective. In one multinational company, a project office insisted that the overview of the Risk Log (see Chapter 10) was held in a word processor table rather than on a spreadsheet, because that was its standard. The Project Manager had wanted to use a spreadsheet so he could sort the data in different ways using the powerful inbuilt sorting functions of a spreadsheet, such as for presenting rows in order of risk severity, or by who reported risks or by type of response; you just don't get that power and flexibility in a word processor table. The restriction was both unthinking and counter-productive, because the table and spreadsheet both look the same when included in the project office's report, and the project office could even have converted the spreadsheet to a table when reporting. We won't get into who gave the project office such authority over the Project Managers!

Here's some core software you'll need:

- » **Database:** Useful for things like a Risk Register and an Issue Register, if you want something with more power than a spreadsheet.
- » **Presentation graphics:** Useful for reporting and passing on information in the form of a presentation, but the facilities in these packages are powerful for general graphics work too and are great for things like the product-planning diagrams and producing the graphics for dashboard reports (see Chapter 16 for more on this powerful, visual reporting technique).
- » **Spreadsheet:** Budget information, 'what if' calculations and also reporting if you use a dashboard format for progress reports (see Chapter 16). Interestingly, spreadsheets are widely used for resource planning in larger projects, where many Project Managers find that the project management software just doesn't give them the flexibility and detail they need. You might also hold register overviews on a spreadsheet, such as a summary of information from the Risk Register. You can even produce an activity network on a spreadsheet, but it's hard work both in creating the network and then keeping it up to date, and project management (scheduling) software is considerably better. If you're thinking that you can't afford project management software, have a look at the section 'Getting Really Good Stuff for Free', later in this chapter.
- » **Word processor:** For written communications, including reporting, and document preparation such as the Project Charter. You might also produce a project news sheet if you need to keep stakeholders informed of developments and you don't need the sophistication of desktop publishing software.

Project management software

This title is a misnomer because the package doesn't help with all of project management or anything approaching it. Really, the tools are scheduling tools and cover activity networks, Gantt Charts and resource planning including resource levelling. A widely used one is Microsoft Project, but there are others. Some packages are cheaper than others, to the point of being free, but if you go for cheaper one, make sure first that it has the functionality that you're going to need. For example, some focus on the Gantt Chart and don't offer any facility at all for activity networks.

Project-scheduling software is generally excellent in what it does, but it can prove very frustrating as well because of the limitations it can impose. As you get used to the software, you quickly learn the tricks to make it display what you want, even if that means telling 'lies' to the software to get the effect you need. On the other hand, though, who'd want to recalculate a hand-drawn, 100-task, two-year duration activity network because a duration changed in Week 1?



WARNING

Some packages are available that fit with project methods, but be careful to check what they do, what they don't do and the nature of their support. These tools, for example, generally don't include scheduling functionality but require you to use a project scheduling tool alongside them. Some also start at the wrong end. They provide a huge amount of documentation and the boast that the software will help you control it all. A better start is to minimise the documentation and limit it to what you really need, not get help controlling some vast and unnecessary project bureaucracy.

A typical project management package allows you to:

- » Product an Activity Network (see Chapter 6)
- » Create a Gantt Chart (Chapter 6 again)
- » Enter resources, and deal with any resource conflicts (such as someone being over-committed)
- » Determine the project budget by entering staff rates and purchasing information, although you may find a spreadsheet better for budgeting
- » Enter *actuals* (time and spending information) to keep track of project cost and time
- » Copy the Activity Network and Gantt Chart diagrams to include in reports and plans
- » Generate graphs and other reports of project activity and spending



WARNING

There's a learning curve involved when you start using a project management app, and be careful not to underestimate that because some are quite sophisticated. If you haven't used one of these apps before, allow time to learn how to use it before you need to rely on it in the cut and thrust of a busy project. You may learn best by 'playing' with the package using a small sample project, or by getting training in some form or another such as a face-to-face course or an online training package.



TIP

Check out *Microsoft Project For Dummies* by Cynthia Snyder Dionisio (John Wiley & Sons, Inc., 2022) for more information on Microsoft Project and using it effectively if you decide to use that software.

Before you rush out and buy a project management app, glance down the following list to help you select the one which is most appropriate:

- » Be sure you have a firm grasp of project planning and control approaches and techniques before you consider any software. You can't make an informed choice if you don't understand what the app will be doing for you.
- » Think about which features will be important to you. That will help you resist 'bloat' features where sales information boasts of extensive functionality, but in your case you'll never use most of it and it will just make the tool unnecessarily complicated to use.
- » Check whether your organisation already has a standard for project management software. That might restrict your selection, or even determine it.
- » If you work in a non-profit or educational organisation, check for discounted rates as discounts can be significant. You may be able to get a much better app than you thought would be possible.
- » See what software other groups in your organisation are using or have used; find out what they like, what they don't like and why.
- » If possible, ask someone who already has the software that you're interested in whether you can spend a few minutes having a look at it. Or see whether the software has a free trial period so you can try it without commitment – many of them do while others are free anyway (more on freebies later in the chapter).
- » After the package is on your computer, practice with a very simple project or a small part of a larger project (that is, enter the activities, durations, interdependencies, resources and so on). Most apps come with a small sample project and you can use that if you prefer.
- » Try to start simply with a new app, so you don't bite off more than you can chew using sophisticated features that you don't fully understand.



TIP

Having got your app, check for updates and particularly during any initial period where updates may be free. However, be careful where updates involve spending significant amounts of money because if a new version just provides additional features that you won't ever use, it's not going to be worth it. (This won't be the case with those apps that are sold on a subscription basis, because updates are included in the monthly or annual fee.)

Communications management software

Communications problems are a primary cause of project failure, so the whole area of communications in your project justifies some very careful thought; Chapter 16 goes into the detail. Technology can help with communication but it can also hinder it, so you need to keep your brain in gear when considering communication.

Communications technology is particularly good when it adds something that can't easily be done otherwise, and this section covers five examples.

Social media

Social media is now established as a useful business tool as well as a recreational one. For example, political parties in the UK were quick to see the value of keeping people in touch, but now many businesses use it to keep customers informed of the latest services and offers and to keep their names regularly in front of the customers.

In the context of a project, social media may be worth considering to keep information flowing to large teams who are spread out geographically, but also as a mechanism for keeping key stakeholders in touch with developments in a fast-moving project environment.

E-mailing

E-mail is powerful, and would be more powerful still if it wasn't so widely misused. This book isn't about e-mail, but it's worth setting down a few pointers in the context of projects:

- » **E-mail is fast:** Sometimes people fire off an e-mail without thinking too much. Be aware of the communication limitations of e-mails. Emotions are hard to convey and a poorly worded comment that is intended to be light hearted may be taken as a criticism or even insult. People do use 'emojis' to convey when they're attempting to be funny, but the danger of misunderstandings and miscommunication remains.

- » **In larger organisations, people tend to get a lot of e-mail:** Consequently, the fact that you've sent an e-mail doesn't necessarily mean that all the recipients have read it, or at least not immediately.
- » **Following on from the last bullet point, keep e-mail traffic down:** Beware of putting people on distribution lists 'for information' when they really don't need to be included. Equally, ask for your name to be removed from distribution lists where you don't have an interest. This is all relevant to the communications planning for the project and you'll find much more on that in Chapter 16. Over-communication is often much more of a problem than under-communication.
- » **E-mail can be time consuming:** It's not uncommon for someone to spend time composing an e-mail on a minor matter and then send it . . . to the person sitting right next to them! They could have just turned to their colleague and used the older but often more reliable technology of speaking. Also, less disciplined team members can waste significant time by chit-chatting with e-mails in the same way that they do with friends when texting or on social media, rather than focusing on project work.
- » **E-mail can be seen as an informal communication:** Be sure that if you receive or send an e-mail that's important, you take care of it in the same way you would take care of an important letter. Set up some systematic way of storing project e-mails so that you know what's been said on a given subject and can find the e-mails again.

Video conferencing

Video conferencing has been around for a while of course, but changing technology has made it readily available and, importantly, cheap to the point of being free when you have a camera that is built in on many computers anyway. Major services at the time of writing are Microsoft Teams and Zoom.

Where you need a meeting, nothing beats face-to-face, but where that's difficult or expensive, then video calls are a great advantage over the phone, because it does make for better communication when you can see people and gauge their reactions in a discussion. With international projects in particular, the video conference is a powerful and cost-effective addition to your communication options.

Working collaboratively with software

Major players such as Microsoft allow for online collaborative working with their software. An example is with a shared 'whiteboard' where people can join in remotely to add to diagrams and comment, but collaborative environments often offer shared file storage as well.

Collaborative working like this comes second place to working around a white-board face to face. However, if getting everyone together isn't possible or is prohibitively expensive, then such electronic collaboration is much better than phone calls during which participants can't see diagrams and certainly can't directly draw onto the diagrams. Using online collaborative environments also retains the 'shared experience' dynamic where ideas flow backwards and forwards more easily and where participants get more engaged than they would with some form of written response.

Setting up a website

A useful technology in bigger organisations and projects is . . . the web. A website dedicated to the project can be extraordinarily effective both in making information available and keeping people in touch with the project.

Part of the advantage of setting up a website relates to the problem of e-mail distribution lists. If you have a website for your project, then you can e-mail people, once, to say that you have a site and if they want to know anything about your project then to go and look on the site. You'll find more in Chapter 16 about the implications of using this technology to circulate project information.

Another way that a website can be really useful is to keep people in touch with, and interested in, your project. If you have a public interface or customers who are very interested in how things are going, then a website could be the answer.

Having Your Head in the Cloud

Cloud computing is now well established with more services coming on stream all the time. A *cloud* is where you have data and even software stored centrally by an Internet service and you access that data over the Internet. Cloud computing is exciting for projects because it makes access to data so much easier (working at home as well as in the office) and because it brings with it functionality such as synchronization.

If you store your project data in a cloud, then everyone to whom you give the necessary authority can access it over the Internet, wherever they are in the world and at any time of the day or night. If you update a file and upload it, immediately everyone has access to that new version.

Many cloud services incorporate *synchronisation of data*. Each computer can have a copy of the cloud files on its local disk and from time to time will check that the local copy is an exact copy of the folders and files on the cloud. If the local

computer has a more recent file (because the user has updated or created something) it will be sent up to the cloud, and if the cloud has a more recent copy or something new, it will be downloaded to that local computer.

The speed at which computers are synchronised varies with the service you are using. Some only synchronise at intervals, so there can be a gap before the new file goes up to the cloud and another gap before other computers check the cloud and download any changes. Other services are almost instantaneous.



WARNING

This section of *Project Management For Dummies* is hard to write because even before this edition of the book gets onto the shelves, things will inevitably have changed. However, in an attempt to be helpful, here are three simple guidelines on cloud computing:

- » **Back up:** Commercial cloud storage is reliable, but don't rely on it. Don't keep a backup copy of your files either; keep several (!) and in different places too. It's been wisely observed that there are only two sorts of computer memory device: those that are going to fail and those that have already failed.
- » **Be careful with synchronisation:** Synchronisation is great, but it has a drawback. If some junior team member deletes a file on their local copy of the cloud, that deletion instruction will get transmitted up to the cloud and then onto everyone else's computers, and the file will be wiped out everywhere. The more sophisticated suppliers of cloud services have an archive from which you can retrieve deleted stuff as much as six months afterwards. That archive service is valuable, provided you realise within six months that something has been accidentally deleted. An even worse scenario is where someone wrongly alters a document, thereby overwriting everyone's correct version. Having stuff on a cloud doesn't mean that you don't need to take backups.
- » **Watch security:** Cloud storage is not 100 per cent secure, even if you have good access controls. That lack of security can simply be because a rookie team member has written their complicated 'secure' password on a sticky note and put it on the wall above their desk. But even if the access and the cloud storage itself is safe, the transmission of data to and from that storage generally isn't. Storing information such as Project Plans is probably going to be fine. But you probably shouldn't put important commercial information on your company's finances that's embedded in the project Business Case on cloud storage.



WARNING

If you use a 'free' cloud storage facility, be aware that few things in life are genuinely free (although there's some good news in the next section). Where cloud services are involved, check the terms and conditions before you commit. In some cases the operator will scan all of your content to pick up key-words, and it makes its money by selling that information to companies who will then target you with

advertising. If you're working in a large organisation, check with your IT and legal staff before you set up any cloud storage or services. If you're in a smaller one, just be very careful.

Getting Really Good Stuff for Free

No, it's true, you can. Powerful, reliable and highly functional services and software are available for free. On the software side, you have *freeware*, but more significantly you can download *open source* software, which is the fruit of collaboration on a huge scale worldwide.



TIP

A search on the Internet can help you find such software and services. New stuff is emerging all the time, but here are a few hints on what to look out for:

- » **Activity planning:** Lots of free tools are highly functional for Activity Networks, Gantt Charts and resource planning (see Chapter 6). You find them for both PC and Mac platforms. Be careful if you might need to send a copy of the plan to others who use a different app though, because the file formats are often incompatible. Also be aware that cheaper or free ones may not be as polished or may even have bugs. The bugs are often clever and lie in wait until you have done a lot of work on your plan, then they kick in causing chaos!
- » **Cloud storage:** Some Internet storage is available for free. Other services are paid for but give a basic amount of storage for free, and you then pay if you want more. That last option might not sound so good until you realise that it's aimed mostly at people storing large libraries of music and photographs. As storing project documents takes considerably less space, the free amount is often more than enough. Having said that, even if you do want more space, the extra storage is usually reasonably priced and available in increments.
- » **Mind Mapping:** Many free packages are impressively functional. These are great if you like Mind Maps and want to use them for things such as product planning and risk analysis.
- » **Office packages:** Many cheap office packages offer word processor, spreadsheet and graphics programs, but you also have the choice of some free ones. The most widely recognised are Apache Open Office and Libre Office. Both have the advantage that they are very powerful and can work in Microsoft document formats. There are also online facilities available, such as Google docs.



WARNING

In all cases when you're shifting data about, do make sure you take on board any security restrictions in your organisation. It takes the shine off delivering a really successful project if you then get fired for security violations! In this context, security includes virus-checking procedures. Don't think either that viruses don't matter if you're in the happy world of Macs because, of course, nasty things can find their way into macro-enabled documents as well as programs and operating systems.

Supporting Virtual Teams with Communication Technology

Imaginative use of technology can support the communication needs of international organisations with virtual project teams. But I'm not just talking about globalisation. On the smaller end of the project scale, you may face similar issues if your organisational policy is for people to work mostly at home with only a small central office and those dreaded 'hot desks'.



TECHNICAL
STUFF

A virtual project team is a group of people who work together across geographic, time and organisational boundaries.

All team members need to work together, whether they are located together or form a virtual team. However, virtual teams face unique challenges:

- » **Members may never meet each other in person.** Becoming familiar with and trusting each other is more difficult; the use of nonverbal signals and body language when communicating is severely limited.
- » **Members may have different primary languages.** This challenge increases the chances that people will misunderstand things.
- » **Members may come from different organisational and cultural environments.** People's work styles and communication practices may differ.
- » **Members may be in different time zones.** There may be limited windows where team members can communicate in real time because of the time differences.



TIP

Picking up on the last bullet in the list, be thoughtful when it comes to international working such as with video conferencing. You might be speaking to someone soon after you arrive at work and are bright eyed and bushy tailed. Be aware that if the other person is half way round the planet and at the end of their day, which has been very long and very busy, they're hungry, tired and want to go

home. Try to schedule calls and other collaborative working for a time that is reasonable for everyone involved.



REMEMBER

Communication technology can facilitate a wide range of the virtual team's routine communication needs. Unless it's impossible though (perhaps because of very high travel and accommodation costs) team members should meet in person from time to time to reinforce their relationships and to maintain focus and identity.

Saving Time with Software

Using computers can make life much easier for the Project Manager, such as by enabling them to quickly find previous versions of plans by nipping into an archive directory on a computer rather than going through a mass of papers thrown in the bottom drawer of the filing cabinet. It can also make for great time savings:

- » **Easy retrieval:** For other project staff, not just the Project Manager, to get at documents quickly, but also to be able to retrieve an older version if you're updating something and now realise you've done it wrongly and want to start over. Which, in passing, means that you should routinely save the different versions of project documents; it takes seconds and could save hours.
- » **Fast transmission:** A report sent as an e-mail attachment is obviously received considerably earlier than one sent through the mail – internal mail, national or international.
- » **Fast update:** Such as putting new estimates based on recent information into an Activity Network then recalculating the critical path (see Chapter 6) before printing off a new version of the plan.
- » **Re-use:** Storing project documentation such as plans that might be adapted for future similar projects, so saving time and helping ensure completeness.
- » **Template documents:** A stock of basic templates for things such as budgets and reports that save having to start from scratch for each project.

Being Artificially Intelligent

Artificial Intelligence (AI) is going to make an impact across the planet, and it is predicted to be a very big one, in the way everyone works. Things that normally had to be done by a person, including you, will be done – or at least assisted – by

the computer. At its best, this is going to save you time and help you focus more on your project because AI-capable packages will be able to produce things quickly and automatically that previously took up your time.

The range of things that AI-enabled packages will be able to do is bound to increase dramatically over time, but will initially include things such as:

- » Finding a suitable time for a meeting by checking everyone's electronic diary
- » Collecting data from different sources and entering into a spreadsheet in a uniform way
- » Translating documents into different languages
- » Automatically adding captions to presentations for those who are hard of hearing
- » Creating presentations with suitable graphics for the subject matter
- » Suggesting more effective wording or better content for a document or presentation
- » Collecting and tabulating work effort data
- » Checking that follow-up actions have been recorded, and for action points from an earlier meeting, that they were done by the right person
- » Analysing time spent on different activities, including if you seem to be taking too long over one type of management activity to the detriment of others
- » Finding information and guidance from the Internet

It's been suggested too that AI tools will be able to produce things such as notes of a meeting and summarise what was said.

It's early days for AI and to date some of the results have been unimpressive. The creation of unique artwork has resulted in some pretty unattractive results, for example, and there have been issues where the AI has made mistakes. AI will improve though, and no doubt very rapidly, but in the meantime continue to check things carefully. For example, don't rely on AI-enabled software to come up with suitable visuals for your presentation just before you make it, and then find that they aren't at all suitable. Equally, check figures for things such as performance and budget reporting to be sure that they are right.

With AI, we will all be 'watching this space' with interest.

- » Getting a grip on Earned Value Management and all the terms and formulas that go with it
- » Understanding the how-to of Earned Value Management
- » Working out the earned value

Chapter **21**

Monitoring Project Performance with Earned Value Management

Suppose you are a senior manager responsible for a particular Project Manager. On the current project, the plan shows that your Project Manager should have spent £110,000 by the end of Week 6. Today it's the end of Week 6 and you receive the regular report on the state of the project. You look at the section on project financials and see that the Project Manager has spent *exactly* £110,000. You're a bit surprised that the figure is correct to the penny, so you crosscheck the project code on the report screen of the organisational finance system. The finance system confirms that the project spending to date is on the button at £110,000.00. Are you pleased with the Project Manager? Will you recommend them for instant promotion to Extremely Senior Project Manager? Everyone knows, after all, that money and budget control is everything in organisations.

Well, you might not be so pleased if you then look further down the status report and see that of the work due to be completed by the end of Week 6, less than half has been done. Your Project Manager has spent the money for you; they're good at spending. What they haven't done is the scheduled work, and what has been done actually cost more than twice what was projected.

What's important in projects isn't just money but delivery. If you've already read Chapter 5, you'll know that a very powerful planning technique is based on products; in other words, what's being produced or delivered. Building on that, this chapter covers a technique that works well with product planning and it's called *Earned Value Management* (EVM). EVM is a technique that helps determine your project's schedule status and cost status. It identifies what you have spent, but it also identifies the value you have *earned* in the project in terms of completed work. EVM is particularly useful for identifying potential problems on larger projects, but you can use it on smaller ones too as an effective project monitoring tool. Monitoring the project with EVM involves determining whether you're on, ahead of, or behind schedule and on, under, or over budget.

Understanding EVM Terms and Formulas

EVM has some complicated-looking formulas, but they're quite simple when you look at the principle underneath them. In fact, before going into the detail of the formulas, you can already work out what's going on. Have a look at the following project examples and see whether you can determine what's happening.

Here are the figures you'll be looking at:

- » Planned cost of the work to be done
- » The value of the work done to date at the original cost estimates for that work: this is the *earned value*
- » The actual cost of doing the work, which may be the same as the planned cost, or the work may have cost more or less than you expected

Looking at a project example (1)

For a project, you get a report that gives you the three figures. Can you see what's going on?

Planned cost of the work to this point in time = £5,000

Earned value of the work done to this point = £6,000

Actual cost of the work done to this point = £6,000

So, the plan shows that £5,000 worth of work should have been done by now, but actually, at the original planned prices, £6,000 worth of work has been done. To do that work actually cost £6,000 too. So, the project is ahead of schedule but bang on budget because things are costing exactly what you thought they would.

Looking at a project example (2)

Try another. This example tells a different story so see whether you can work out what's happening:

Planned cost of the work to this point in time = £5,000

Earned value of the work done to this point = £5,000

Actual cost of the work done to this point = £6,000

In this second example, the plan shows that £5,000 worth of work should have been done by now. The earned value, based on original prices, shows that £5,000 has been done. So the project is on schedule. What should have been delivered by now has been delivered. However, the actual cost of doing that work was £6,000, so the work has cost £1,000 more than expected. Things may be okay in terms of the schedule, but the project is overspending.

Looking at a project example (3)

So far so good? Okay, go for a third then:

Planned cost of the work to this point in time = £5,000

Earned value of the work done to this point = £7,000

Actual cost of the work done to this point = £6,000

By this point, the project was scheduled to do work that would cost £5,000. In fact, the project has delivered £7,000 worth of work at the original prices, so it's significantly ahead on time and more has been delivered than planned for this point. However, although £7,000 worth of work has been done, it's only cost £6,000 to do it. So the project is ahead of schedule at the moment, and is coming in under budget. Looking good then – the figures must have come from one of your projects.

EVM then associates delivery with cost. It isn't simply a matter of what has been spent, but rather whether the scheduled work has been done and how much it has actually cost to do it. When you're used to EVM, it's quick to see what is happening on the project, which makes this an excellent technique to use in progress reporting.

Getting the three key figures

Here are the names for the three key figures used in the last section. You may come across some slightly different terms, including those mentioned in the following bullets, but if you do, don't get thrown by them because it's just different terminology.

- » **Planned value (PV):** The budget for the work scheduled to be completed by a specified date, also referred to as the *budgeted cost of work scheduled* (BCWS).
- » **Earned value (EV):** The budget cost of the work actually completed by the specified date, also referred to as the *budgeted cost of work performed* (BCWP).
- » **Actual value (AV):** The costs actually incurred for the work completed by the specified date, also referred to as the *actual cost of work performed* (ACWP).

Figure 21-1 illustrates the three figures on a graph.

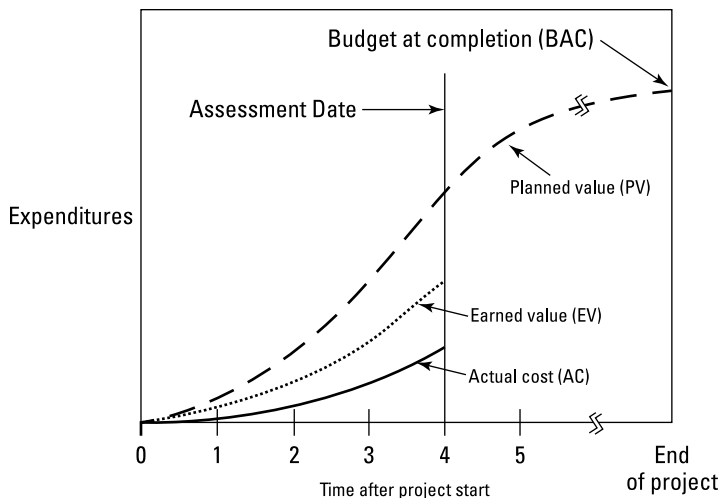


FIGURE 21-1:
Monitoring
planned value,
earned value and
actual cost.

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To get a clear picture of your project's schedule and cost performance with EVM, you can move on to use the following indicators that come from comparing the three main figures:

- » **Cost variance (CV):** The difference between the amount budgeted and the amount actually spent for the work performed. The CV shows whether and by how much you're under or over your approved budget.
- » **Schedule variance (SV):** The difference between the amounts budgeted for the work you actually did and for the work you planned to do. The SV shows whether and by how much your work is ahead of or behind your approved schedule.
- » **Budget variance (BV):** The difference between the amount budgeted to have been spent by this point in the project and the amount actually spent at this point in the project.

Given that there are three key figures and then three comparisons between them, you could be forgiven for thinking that this suggests a triangular model. Sure enough, you can show the figures that way, and having described such a picture it's only fair to provide it, so have a look at Figure 21-2.

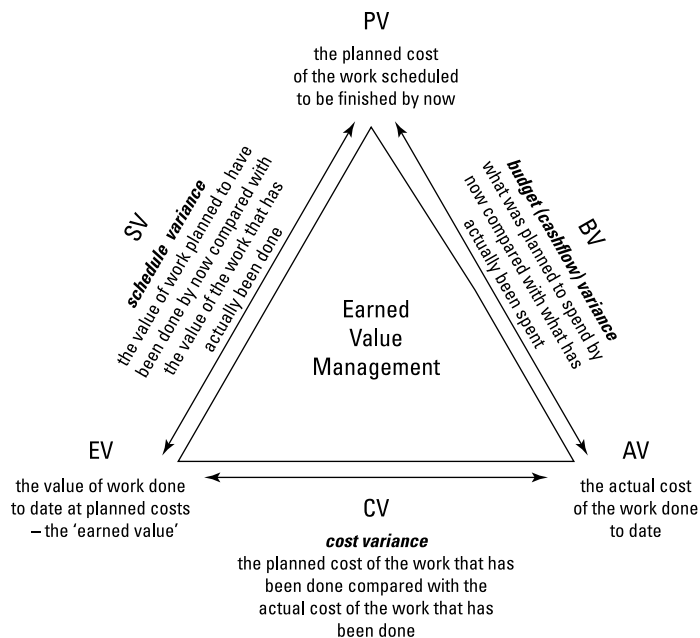


FIGURE 21-2:
EVM key figures
and variances.

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The variances are helpful to know what is going on, but also to give you a nudge to take project management action:

- » **SV:** Is the work ahead of schedule, behind or on target?
- » **CV:** Are things costing what was anticipated in the plan, or are they more or less expensive than predicted? Significant variance justifies some investigation with a view to altering the project budget up or down, or even reviewing project scope.
- » **BV:** Is project spending happening when expected or has more or less been spent than predicted in the plan for this point? If there's a significant variance in either direction you may need to talk to the Sponsor and perhaps organisational finance staff to review what is being spent in each financial year.

Working with Ratios and Formulas

Having got the six basic figures clear using the previous section, you can move on and get even more clever with the use of a couple of ratios to show how things are going. This can be really useful for forward projection 'what if' calculations. So, based on the information so far, what if the rest of the project behaves the same way?

There are two key ratios:

- » **Schedule performance index (SPI):** The ratio of the budget for the work performed to the budget for the work planned. The SPI reflects the relative amount the project is ahead of or behind schedule, sometimes referred to as the project's *schedule efficiency*. You can use the SPI to date to look at the schedule performance for the remainder of the task or even the project.
- » **Cost performance index (CPI):** The ratio of the approved budget for work performed to what you actually spent for the work. The CPI reflects the relative value of work done compared with the amount paid for it, sometimes referred to as the project's *cost efficiency*. You can use the CPI to date to project the cost performance for the remainder of the task. So, if everything so far has cost 5 per cent more than expected, it might be correct to say that the whole project will end up 5 per cent overspent. In turn, that might call for some re-planning or even de-scoping to bring the cost back down or just merely to warn the Finance Director that the project is likely to end up overspent by this amount.

Having got the underlying principles of the EVM approach clear, the underlying formulas should make sense. Schedule and cost variances and performance indicators are defined mathematically as follows:

Schedule variance (SV) = Earned value (EV) – Planned value (PV)

Cost variance (CV) = Earned value (EV) – Actual cost (AC)

Budget variance (BV) = Actual cost (AC) – Planned value (PV)

Schedule performance index (SPI) = Earned value (EV) ÷ Planned value (PV)

Cost performance index (CPI) = Earned value (EV) ÷ Actual cost (AC)

It's worth saying that if you don't quite follow all of this at the outset, start simply with the basic concept and work your way up.

Investigating Variances

Cost or schedule variances tell you that your project isn't going exactly as you planned. If you spot a variance, you then have to figure out what's causing it to see if it's localised to one part of the work and so you can take corrective actions where necessary. As you investigate, check whether:

- » one or more tasks needed more or less work to complete than you originally planned.
- » work has been done which is outside the approved scope (taking into account extra time and resource for approved changes).
- » more or less work has been done than was expected for this point (you're ahead of schedule or behind schedule).
- » team productivity is different to that which you expected.
- » team members don't have the availability that you planned for. Perhaps they are being pressured to do other, non-project work and so have less time to spend on your project than you or they expected.
- » the costs of labour or materials are more or less than expected.
- » spending or team time has been charged to the wrong project code. That can easily happen by mistake when two project codes are similar.

Deciding What to Measure for EVM

When using the EVM technique, you have some choices on how to apply it. Earned value is traditionally applied to project activities, and that's not least because most project management approaches are based on activity planning. However, after you've mastered product-based planning (explained in Chapter 5), you'll see that this fits very well with EVM because you can use the products – deliverables – as budget blocks for planning and delivery. If that sounds high level, don't forget that if your project is anything more than small, you're going to break products down into more detail in stage planning, and potentially to more detail still if team-level plans are needed. Indeed, part of the judgement on what level of planning you'll go to is based on control needs, and if EVM is one of your chosen controls then in turn that will have an influence on the plan.

It follows that you can apply EVM to particular parts of the work but then also to the project as a whole. If your project is fairly complex, you may consider using EVM to help monitor performance, although there's nothing wrong with trying it out first on a smaller project to get the feel of it.

If you're basing EVM on progress with activities rather than on delivery of products, the key to a meaningful analysis lies in the accuracy of your estimates of earned value. To determine earned value, you must estimate:

- » How much of a task has been completed to date
- » How much of the task's total budget you planned to spend for the amount of work that's been done

If you are working using activity monitoring to estimate the earned value in your project, you can use one of the following three approaches:



WARNING

- » **Per-cent-complete method:** Earned value is in proportion to the amount of an activity that has been completed.

This per-cent-complete method can be accurate if you can work out reliably how much of the activity has been completed. However, as covered in Chapter 15, because that estimate often depends on subjective judgement ('I think we're probably about half way through, more or less, give or take, plus or minus') this approach is also the most vulnerable to errors in judgement or misleading information such as project staff overstating what they have achieved.



WARNING



TIP



WARNING

- » **Milestone method:** Earned value is 0 until you complete the activity, and it's 100 per cent of the total activity budget after you complete it.

The milestone method is the most conservative since it doesn't allow you to declare earned value greater than £0 until you've completed the entire activity. Therefore, you'll always appear over budget while you perform the activity.

Valid as the last warning is, you can use key delivery points as major progress checkpoints and accept that measures in between aren't going to present perfect 'snapshot' data. If you have a steady stream of points where you can make a calculation (which will be the case if you're working with product-based planning) you have regular feedback during each stage and of course you can be totally confident about the figures.

- » **50/50 method:** Earned value is 0 before you start the activity, 50 per cent while it is underway, and 100 per cent after you finish it.

The 50/50 method also gives an inaccurate picture when used part way through a task. If a team only started a four-week job this morning, it's already being credited with 50 per cent complete.

- » Understanding project governance
- » Figuring out project governance in the context of corporate governance
- » Implementing good project governance
- » Making sure you get it right

Chapter 22

Project Governance and Why It's Really Important

You've probably heard senior managers, and the media, talking about corporate governance. It's very high profile in organisations, quite rightly so, and it's here to stay, again quite rightly so. If you have somehow managed to escape the term then *corporate governance* is simply about the way an organisation is managed, with the emphasis on making sure that it is managed well. Poor management leads to wasted money, wasted effort, wasted opportunity and sometimes worse things still. Highly visible problems in organisations, and even some disasters, have been laid at the door of poor corporate governance. Establishing good corporate governance is a top management responsibility, and it all starts at that top level. 'Wait a minute' you say. 'This stuff about organisational management is all well and good, but isn't this book supposed to be about projects?' Well I hadn't forgotten, but here's the thing. Good corporate governance includes good project governance, and senior managers are only just starting to realise that. Corporate governance so far has been like a big ring-doughnut. In many, perhaps most, organisations there's a hole in the governance doughnut and that hole is their projects.

Organisations must soon look to good project governance if they haven't already. Few can afford to continually throw money and staff time down the drain, and their shareholders and non-executive directors will start to complain even if the senior managers sometimes don't appear all that bothered. If you're involved with

putting good project governance in place, or making sure that existing governance is working, or simply want to understand what it's all about, well this chapter is for you. It sets down what's involved and also a few pointers to help get it right. The really good news is that good project governance will pay for itself. Big, sometimes seriously big, losses result from projects that go wrong to the point of complete failure, because they weren't being managed well. And *managed well* in the context doesn't mean just the Project Manager but the Project Steering Group (PSG) and organisational management too. If you're involved in setting up good project governance, you can help get all that right.

Seeing Why It's a No-brainer

Projects are important or they wouldn't be run, however the failure rate remains alarmingly high. Different surveys that I've seen report a fairly consistent 70 per cent failure rate where projects don't meet one or more major targets (such as cost, time, functionality or quality) or fail completely. Usually the failure reveals underlying poor management and inadequate project oversight. It's strange that managers have lived with this failure rate for so long. What organisation, you may wonder in an idle moment, would accept a 70 per cent failure rate as normal in their day-to-day operations when the causes of that failure are mostly avoidable? Why is it that top managers see the need for good management across all areas such as production, accounts and customer care but ignore their projects which are allowed to continue to fail? If anything, surely projects need better management control than anything else because they're often to do unusual *one-off* things and frequently involve groups of people who don't normally work together; they're *cross-functional*. That's usually more risky than the normal operations of the organisation which are, well, normal and where the people involved know each other well which all means that things are far less likely to go wrong.

At project level a common excuse is that 'Although good management discipline and good project governance are important, on *this project* we simply haven't got the time for all that. In an ideal world with lots of time and unlimited staff resource then of course we'd run the project properly and "by the book", but the harsh reality is that this isn't an ideal world. On *this project* then, let's just hope we get away with it.' The trouble is that every one of the 70 per cent failed projects was *this project* to somebody and clearly they didn't get away with it. And if the argument to cut governance corners is so very sensible, why not apply it to the whole organisation and abandon management control of everything?

The need to establish good project governance really is a no-brainer. Failure is expensive in many dimensions, as touched on at the start of this chapter. Good project governance must become a day-to-day reality and no less important than good governance throughout the rest of the organisation.

Looking At Other Guidance

Of course, there's other guidance around on project governance, but be discerning when you look at it. For example, a set of guides was endorsed by the UK government but although they offer some worthwhile guidance they are nevertheless very limited on three counts. First, the background is one of very large organisations and the content is much less appropriate to the huge number of more normal size ones. Second, they focus on things such as principles and people understanding their roles, but only mention in passing the need to check individual projects and give no help on that at all. Third, they are mostly lists with short explanations of each item and no explanation of the practicalities.

Checking that a particular project is set up correctly and then is running correctly is 'where the rubber hits the road' in project governance (and my sincere apologies for using that awful expression, but it fits well here.) Establishing good project governance is more than just listing roles and principles. Just like financial management and financial audit, you need strong, practical checks sitting behind that to make quite sure that things are being managed well and that a project isn't going to hit avoidable problems. So, the guides are good, but only as far as they go. In contrast the approach taken in this chapter is more practical with a major emphasis on checking each individual project.

Understanding What's Involved

When I deliver a project governance briefing for senior managers in an organisation I cover six key elements. They're set down here because you might find them helpful as a framework to think around your own organisation's needs.

The first two of the six elements cover the top management responsibility for good project governance. The remaining four are concerned with carrying good governance down to individual project level. So many projects start off wrongly with poor plans (or none at all) and inadequate controls. A deeper problem is failing to detect when a project simply shouldn't start at all. For example where the benefits are wildly optimistic, the scope of the project is understated, the fixed timescale is unachievable and the available resource is clearly insufficient – so actually the project just isn't worth running at all as it's doomed to failure from the outset.

RESPONSIBILITIES

Before getting into the nitty-gritty of project governance, it may help to get a clear view of where the responsibilities lie, so here's a quick guide.

- **Top organisational management:** Setting up good project governance practice in the first place, then reviewing it regularly to make sure that it's working well. That includes project standards and management procedures. Top managers should also pick up on, and deal with, any lapses in the application of good project governance.
- **Project audit:** Staff with a good understanding of the practicalities of projects and project management. They should check that the governance of individual projects is good and in line with the approach set down by top managers. They should be independent of the project and report back to top managers, or one of them who has been appointed to keep an ongoing eye on the governance. However, the auditors will let a project's PSG know the findings of the audit so that the PSG can correct anything it needs to. The need for independence means that the audit staff should not also be doing things like project administration or giving detailed project advice. Think about financial auditors; they can't be the same people that worked on the accounts in the first place.
- **PSG:** The PSG members have responsibility for good project governance within their project and making sure that it complies with the approach set down by top managers, or has exemption for any parts that don't make sense if the project is unusual and the standard would be inappropriate.
- **Project Manager:** This role is included for clarity as the Project Manager doesn't have responsibility for good governance. However, the Project Manager should work to ensure that the right controls and management are in place for the project and that the approach taken complies with the organisational standards and procedures.

Understanding the Organisational Level

The first two of the six elements of good project governance cover the organisation's approach, which is the responsibility of top managers. It's the higher-level management control within which the lower-level governance will then be established in the individual projects.

Standards and approaches

Most organisations have a considered and fairly ordered approach to their main-stream activities from production or service delivery through to support areas such as accounting. Projects should have an orderly approach too with good standards and sensible procedures. Please note carefully though that this isn't an invitation for excessive, unwieldy procedures and bureaucracy-gone-mad. A good approach to projects should be practical, genuinely helpful and also flexible to account for different project needs.

It's a top-management responsibility to ensure that suitable standards are put in place. Those managers can make life easier for themselves, and usually save money too, if they adopt suitable existing standards rather than put people to work to re-invent the wheel. And perhaps, because of limited experience, the re-invented wheel is not such a good one.



TIP

Senior managers often suppose that their projects are very different from projects in other organisations. It isn't true. Requirements for project management, project control and project governance are very similar across different organisations and even across different countries and cultures. The problems experienced in projects across the world are often remarkably similar too.

Reviewing governance and standards

Having got standards and procedures in place, top managers can't simply forget about project governance. There should be regular review to be sure that the standards and procedures . . .

- » continue to be practical and workable.
- » are comprehensive and if genuine gaps have been exposed that the approach is then adjusted to fill them.
- » are reduced if part of a process or standard is found to be unnecessary. That way organisational staff see the governance approach as sensible and appropriate and are less likely to try and cut corners.
- » are not being extended by over-zealous administrators who are focused on project processes and documentation rather than successful delivery.
- » are being carried out effectively in the projects, not just lip-service being paid to them with 'correct' document sets.
- » reflect any new organisational trends, such as for doing bigger and more complex projects or ones with higher levels of risk.

- » have taken on board valid criticisms and practical suggestions from project staff to improve the governance further.
- » are effective overall, so that the project success rate is high and that there are no instances of project failure due to poor management.
- » are effective at project level with problems being detected promptly and dealt with, rather than going on to cause unnecessary difficulty with the threat to project success which will often accompany that.

In this context regular review should normally be every year but when the governance approach is first launched there should be more frequent review, perhaps every three months for the first year. It's important that the approach to project governance is got right. If something isn't working at first then it must be addressed quickly so that those involved in the projects don't just dismiss the whole approach as ineffective and unworkable and then don't ever take it seriously.

To reinforce the last point about taking things seriously, top managers must make quite sure that those involved in the projects fulfil their governance responsibilities properly. Any detected lapse must be picked up quickly by the top managers and firmly addressed before the lapse turns into a slide and the slide turns into the abandoning of the governance mechanisms. How can top managers get to know about a lapse? Well, watch out for references to project audit in the next section.

Checking an Individual Project

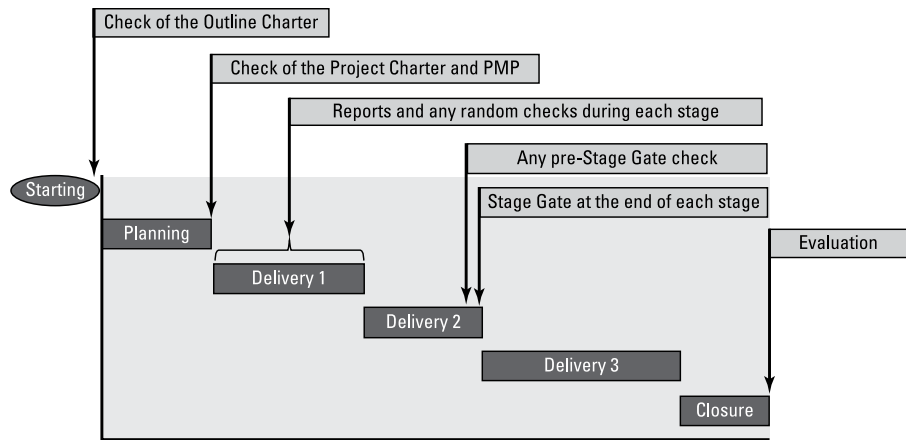
The final four of the six elements of good project governance are to do with checking an individual project. You might find it easier to keep track of them by having a look at Figure 22-1 which shows where checks are needed.



TIP

For the checks in the following sections, you might find my book *Project Checklists For Dummies* (John Wiley & Sons, Inc., 2014) useful. It has detailed lists to help you look into all of the aspects and so help make sure that the project is sound. Don't be put off by checklists as they can be really helpful if used flexibly (adapted where necessary to suit the project) and correctly. Just like a shopping list, they help you make sure that you haven't missed anything.

FIGURE 22-1:
The project and
points for
governance
checks.



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Checking the project's Outline Charter

Full project planning is time-consuming and so expensive. Before starting it then, it's important to be sure that the potential project is well considered, achievable and viable. Make sure too that everyone understands, and is agreed on, what the project is to deliver and what the objectives are.

The document to check at this point is the Outline Charter. If you haven't read Chapter 2 yet, you may find it helpful if I explain that the Outline is rather like a high level 'sketch' of the project so everyone can agree what the project is about and what the objectives are before getting into the detailed planning.

Checking the Charter and PMP

Once the full planning has been done in the Planning Stage, two major project-level documents will be available. These are the Project Charter covering the strategic parts of the project such as the Business Case, and then the Project Management Plan (PMP) covering the tactical planning such as the Risk Plan and Project Plan. It's important that these are correct because the next thing to happen is that teams will get busy and start work on the delivery stages.

A major known cause of project problems, and failure, is poor plans or not having any plans at all.

Why plan when you can worry?

Unknown source.

Strangely, the problem of having no plans at all can be in organisations that are following the general principles of a known project approach but without any practical understanding of how to apply it well. Some say that you need big documents up front – you may be familiar with the term Project Initiation Document (PID), for example, that includes the plans. However, because the approach is geared to fit projects up to and including very large ones, and nobody realises that the document should be adjusted to fit the control needs of each particular project, the documents take forever to prepare. But the project is urgent, so it starts and is half way through by the time the starting documents are completed and finally agreed. For some projects it's worse still with those documents only being finished and signed-off after the project is finished, just so everything looks good with 'proper' documentation in case anyone checks. No wonder the time and cost estimates were so accurate then!



TIP

If you're looking for signs of bad governance, watch out for document lags. If the delivery stages have been started but the Charter and PMP (or PID) haven't been agreed yet, then the project has become divorced from the very controls that are supposed to be in place to run it. The documentation has become a pointless game-playing exercise done for appearance only. And in passing, excessive documentation and unwieldy procedures are more signs of bad project governance.

A vital governance check then is to be sure that the project planning is sound, that the controls are adequate given the characteristics of the project and that the project is properly justified. This check should be done by the PSG for the project, but also by project audit staff.

Checking the project while it's running

During the delivery stages, there are two areas for checks. The first is by the PSG. The PSG should be getting regular progress reports from the Project Manager and these reports should be checked carefully. Then, at the end of every delivery stage there's a Stage Gate where the PSG should do a more thorough check of the project before authorising the continuation of the project and the start of work on the next stage. That thorough check should include making sure that the project is still viable and that the controls are proving sufficient on the one hand and not excessive on the other.

The second area of checking is by project audit. Especially if the project is very important to the organisation, project audit could carry out a check before the end of each delivery stage to make sure that everything is okay and that the PSG has good information on which to base its decision on whether to carry on or not. Another option, which can be used in combination with regular checks, is to have

spot checks where audit staff will arrive at fairly short notice to make sure that everything is okay. Spot checks help keep everyone on their toes and prevents 'posing for the photograph' where everything is made to look exactly right at the end of the stage, but actually things were chaotic and out of control during it. In most cases, that last scenario is a little unfair since the Project Manager will have been doing a good job. However, an audit may still be valuable, and welcomed by the Project Manager, as a 'second pair of eyes' to be sure nothing has been missed. There's more on effective project audit in Chapter 12.

Regular checks made during the project must include:

- » **Business Case:** that the project continues to be needed and justified and that benefits projections are realistic and up to date.
- » **Controls:** That the controls are both suitable (not too much, not too little) and that they're actually working well.
- » **Plans and forecasts:** That plans are kept up to date and that reports (such as on progress, spending, quality and risk) are accurate.
- » **Roles:** That people are functioning well in their role, including the members of the PSG itself.
- » **Quality:** That the right quality is being delivered. Remember, that project management is not just about time and cost. There's no point in delivering a heap of unusable garbage on time and within budget.
- » **Risk management:** That the level of negative risk remains acceptable and that the risk management mechanisms are working effectively.

Evaluating the project at the end

At the end of the project it's important to evaluate it in three areas.

- » How the project went and if, in retrospect, it could have been done better. A helpful question here is 'If we were starting this project again and with the benefit of hindsight, would we do anything differently?'
- » How well project deliverables are working. Are they suitable for those who are now using them?
- » The extent to which benefits have been realised. Are the benefits at the levels expected and set down in the Business Case, or better, or worse? If better or worse, why? The last point on 'why' may be of real help to future projects to help avoid understating or overstating expected benefits.

Maintaining the 'Big Divide'

Within a project there's a big divide in the organisational structure and that divide, reflected in the international project management standard ISO 21500, is there for project governance reasons. That's best illustrated with the organisation structure example already used in this book in Chapter 12, but annotated here in Figure 22-2 to show that all important big divide with a bold dashed line. You should have a project organisation structure in all your projects that reflects this divide.

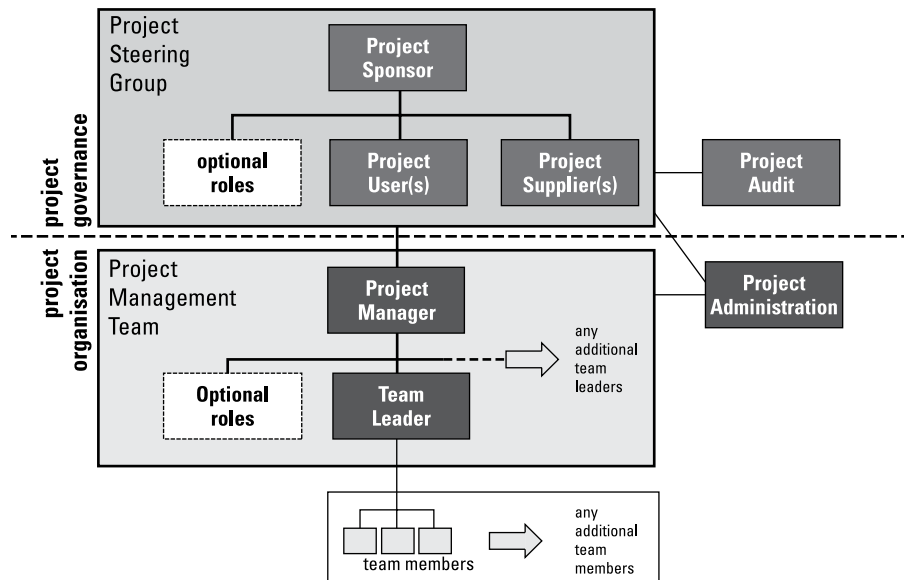


FIGURE 22-2:
The project
organisation
structure and the
big divide.

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At first sight it can seem a bit difficult to understand the big divide, but actually it's very simple and can be summed up with the words 'You can't audit your own accounts'. Forget projects for a moment and think about organisational accounts and financial audit. Financial auditors must be impartial. You can't help write the accounts and then audit them too; that would be nonsensical because you aren't independent. So too with the project. The PSG is responsible for making quite sure that the project is being run well day-to-day. The members of the PSG can't do that if they are intimately involved themselves with the everyday running of the project. If they are closely involved they can't take the wider view.

Project audit person: 'Now, has the project chosen the best people to quality review this product? Ah yes, they selected the ones that I suggested. That means that they chose exactly the right people and clearly they have very good judgement on the matter because they did what I told them to do.'

See what I mean? If they've involved, they can't be sufficiently objective; you can't 'audit your own accounts'. Going back to the diagram at Figure 22-1, you should now understand the 'big divide'. The PSG and the audit function (acting on behalf of the organisation) must be separate from, and independent of, the operational part of the project management.

Coordinating Your Project Training

It's no good at all for senior managers to be wanting particular information for checking projects if the project staff aren't trained up in the techniques needed to provide it. Training or *briefing* (which is usually a more palatable word) for top managers and PSG members must be coordinated with Project Managers and project office staff. In the publicity for the coordinated project courses which I have delivered, I've used the catchphrase 'You can't check what isn't there.'



REMEMBER

Far too much project training is focused merely on theory, project documentation and preparation for exams. For a well-governed project environment what's also needed is practical training on how to do the job of delivering projects reliably and successfully. At the end of the day project management is about successful delivery, not framed certificates on the wall (or, in my case, stuffed into a back pocket in a filing cabinet). Part of that training must cover project governance. Good, practical training alongside simple but effective governance oversight will quickly pay for itself if it helps your organisation avoid the 70 per cent failure statistic quoted earlier in this chapter. If you're going to invest in training, make sure it's practical and make sure it's sufficient; that's all part of good project governance too.

I'll wrap this chapter up with a cautionary tale. A very large and well-known UK organisation (a plc) wouldn't pay for project staff to have a full training course and instead arranged for a six-hour project management overview. The trainer could only get very limited information beforehand on who would be attending and was given the impression that the session was just to give a high-level introduction to some new and junior project staff. Actually that trainer was me, and I was astounded to find at the start of the session that those attending had major project management responsibilities in a series of very large and important projects. I did my best to adjust the content to help them, but six hours (including time out for lunch) is six hours. A few months later the organisation missed a major deadline within those projects and under the terms of the contract had to pay their customer (the UK government) half a million pounds. Some months after that they missed a second deadline with the forfeit of another half million and, not surprisingly, that wasn't the end of the problems. So much for the saving of a few days of training then which would have equipped the staff with excellent planning and control techniques to at least give them a fighting chance.

6

The Part of Tens

IN THIS PART . . .

Work through key questions to help ensure that you understand the characteristics of a project as you come to plan it.

Write a convincing Business Case without overdoing it, being clear on the benefits and technical features. And remember to see things from a business, rather than a project, viewpoint.

Improve as a Project Manager by holding on to the big picture, encouraging others and treating them with respect, and by remembering that as well as being a manager, you are also a leader.

- » Clarifying your project's objective
- » Describing deliverables, schedules and resources
- » Addressing uncertainties

Chapter **23**

Ten Questions to Ask Yourself as You Plan Your Project

When you begin a project, enthusiasm or organisational deadlines, or both, can make you want to jump in and start the technical work immediately. However, you have the greatest chance of a successful outcome, including delivering the right thing, if you plan out your project before you start the actual work. Answer the ten questions in this chapter to help ensure you've completely identified all the work your project will require.

What Are the Objectives of Your Project?

A common cause of project problems – to the point of project failure – is unclear objectives. It's easy enough for people to have very different ideas but use the same words so each person assumes that everyone else agrees with them. You not

only need to establish clear objectives, but also to get them agreed by the key players. You can do so by determining the following:

- » Exactly what is the project being asked to deliver?
- » What is the primary purpose of the project? Perhaps to speed up delivery to customers, comply with new legal requirements, or save money. The project can have more than one objective but they must be compatible.
- » Who'll benefit from the project?
- » What would happen if the project wasn't run?

Who Do You Need to Involve?

Try hard to get the right people involved in your initial objective setting as well as in the project itself. Think about:

- » **Budget holders:** People who hold the purse strings and can dictate the form of the project.
- » **Influencers:** Those who may not have budgetary control but who have the organisational position or personal influence to support things – or block them.
- » **Providers:** Those providing any staff resource. For example, do you need IT staff input, which may be difficult if the IT department is mostly committed for the next two years!
- » **Stakeholders:** People who have an interest in your project's results, including those who will be using what your project delivers. You may need to resolve conflicting objectives.

You can find more in Chapter 4 on identifying and managing project stakeholders.

What Will You Produce?

Be clear on what the project is delivering in total, then in more detail as you get into project planning. Make sure that the key players agree the key deliverables or products. You may even produce a few Product Definitions when sketching out the

project, because often people get a much clearer view of what the project is about when they understand what it will deliver.

- » Clarify exactly what the project will deliver at the end.
- » Think what products will be produced during the project.
- » Determine the sequence in which products need to be produced and the dependencies between them.

See Chapter 5 for more discussion on project products and Product Definitions.

What Constraints Must You Satisfy?

Identify all information, processes and guidelines that may restrict your project products, activities and your performance. When you know the constraints, you can plan effectively to work within them if, for example, they are technical or time constraints, and to minimise their effects on your project if they relate to something such as finance or staff availability.

Identify whether any constraints can be challenged. For example, with a technical constraint, you may be able to challenge an instruction to use a certain type of machine if a new machine becomes available that's better and cheaper.

What Assumptions Are You Making?

From the outset, note down any conscious assumptions you make about the project, and think very hard so you can minimise the unconscious ones. Make sure that others know about any assumptions on which the plan is based. For example, ensure that the Project Steering Group (see Chapter 12 for more on this group) understands that the planned completion date assumes that another project will not run more than four weeks late and will release staff in time to work on your project. Update your plans whenever an assumption changes or you find out its actual value.

What Work Has to Be Done?

Identify all the products in your project, at the project level of detail, then determine the activities required to produce them. Then go on to estimate resource needs. For each product, specify the following:

- » **The work to be done:** The activities needed to build each product.
- » **Skills:** What skills or technical expertise are needed for product development and to test the product.
- » **Durations:** How long it will take to perform each activity.

See Chapter 5 for information on product planning, Chapter 6 for information on activity planning and Chapters 7 and 8 for staff resource and budgeting.

When Does Each Activity Start and End?

Develop a schedule with clearly defined activities and frequent intermediate milestones – the products are perfect as milestones. Think about the following when you create your schedule:

- » **Activity dependencies:** Mandatory, logical and chosen dependencies that mean one activity will be done before another.
- » **External dependencies:** Such as on other projects.
- » **Resource availability:** When you need particular resources and when they're available (see the next section as well).

Chapter 6 contains more information on how to develop a project schedule.

Who Will Perform the Project Work?

Knowing who will perform each task and how much effort they'll have to devote allows you to develop the schedule and more accurately estimate the overall project budget. You need to think not only about the skill sets and experience levels needed for the project, but when people will actually be available. For example, some team members may have other work to do in parallel to working on your project and so not be available full time.

Talk to the people who'll perform the project tasks to develop this information. See Chapter 7 for help with resource planning.

What Other Resources Do You Need?

Identify all equipment, facilities, services, supplies and funds that you need to perform your project work. Specify how much of each resource you need and when. Chapter 8 has more on how to identify physical resources.

What Can Go Wrong?

Don't be taken off guard! Identify risks and develop sensible plans to minimise or even eliminate the negative ones (the *threats*). See Chapter 10 for help on how to manage project risk, and remember that some risk actions may be very simple, quick and cheap, but can work to prevent your project coming under unnecessary pressure.

Lisa Faulkner, a winner of the TV cookery award *Celebrity MasterChef*, said, just before the final, 'My food has to be fault-free today. It has to look good and taste good. And there are little things that could go wrong but I've got backup plans so that if they do go wrong I can turn them around into things that have gone right.' Good project advice!

- » Being prudent and not ‘over-egging’ the Business Case
- » Being clear on what are benefits and what are technical features
- » Seeing things from a business, rather than a project, viewpoint

Chapter **24**

Ten Tips for Writing a Convincing Business Case

A project needs to be justified, not just done for the sake of it. You will usually set down that justification in the form of a Business Case, which, as the name suggests, explains the case for the project from a business perspective. It's easy to go off track in a Business Case so that managers in the organisation who have the authority to approve the project simply aren't convinced and so don't give the go-ahead. This chapter sets out ten tips to help you get the Business Case right – first time.

Starting with a Bang

Your project will normally have a number of benefits, and it can really help to start with the best one – start with a bang. That grabs the attention and gets people on side quickly. Don't exaggerate this benefit, but do let it have its full impact in the way that you write it. For example: 'This project will save £1 million in reduced wastage in the first three years of operation.' Notice that the £1 million figure is

rather more impressive than saying £333,000 a year. If you think that sounds a bit like a sales pitch, you're right – don't shy away from that. You need to 'sell' the project idea in order to get the green light.

On the other hand, this is a business document, so although you should sell the idea, the Business Case should contain solid, evidenced business information and not be frothy sales talk.



TIP

If you're using a format in which the benefits aren't the first thing in the Business Case but something like a summary or a management overview is, use the opening of that to make the bang with the biggest benefit.

Spelling out the Benefits Clearly

Spell out the benefits of the project in clear terms that those reading the document can relate to. You can find it all too easy to be convinced of the project yourself within the project perspective, where it all makes perfect sense, but fail to see things as people outside the project see them.

If your project is of any size beyond small, then be particularly aware of the senior management perspective and, particularly, the financial management perspective. A finance director and a managing director will see a great deal of difference between a quantifiable financial gain, another measurable gain and a non-quantifiable benefit. Financial gains make directors sit up quickly and take notice, so be sure to point these out.

If you aren't sure of the difference between the different types of benefits, have a look at Chapter 3 for an explanation.

Pointing Out the Non-quantifiables

You should explain non-quantifiable benefits especially carefully and back up claims of these benefits and your estimates of their significance. Non-quantifiables can be extremely important in business terms, but as hinted in the previous section, senior managers tend to focus on the money; often they are less interested in the non-quantifiables. Where non-quantifiables are important, be sure to explain why.

Being Prudent

Don't overstate or exaggerate benefits. Remember the financial principle of being prudent and erring on the safe side. If you make huge claims for the project that it can't deliver, it (and you) will be seen as a failure when those benefits don't materialise. If you slightly understate the benefits, you have a margin for error, but also if you slightly exceed them then your project (and you) will be seen as a big success.

Once again, you need to strike a balance with this. If you massively understate the benefits, then when your project delivers considerably more you'll be seen in a bad light for not having set down an accurate Business Case and not understanding the nature and impact of your project.

Considering Three-point Estimating

Sometimes you just can't be sure of the benefits levels, or you're in difficulty because some enthusiastic manager has already told everyone that the project won't cost much, will take almost no time at all, and will deliver mind-boggling benefits. To deal with either scenario, you can set down three projections of each benefit: best case (the one the enthusiastic manager has been advancing), worst case and then the most likely case.

Making Sure Benefits Aren't Features

Here's another dimension of thinking from the business or organisational viewpoint. If you have a technical interest in the project, you may be rather too focused on that perspective rather than the business advantages. Having a 2-nanosecond transmission time through the outer edge of the flange may be incredible, but it's a technical feature not a business benefit. In all cases, think 'how does this benefit the business?'

It could well be that the technology represents substantial business benefit, but then you must go further and spell that benefit out. If the faster speed means that production costs will be reduced, then that becomes a business benefit and one which can be quantified and, later, measured and proved.

Avoiding Benefits Contamination

I coined the phrase *benefits contamination* to describe claiming benefits for the project that are really due to something that's outside the project.

Financial managers usually have a keen eye for benefits, and if they spot such contamination then it undermines your credibility and, along with it, the credibility of the whole Business Case. In addition, if you're claiming benefits that won't actually be delivered by the project, it could lead to the project being approved when actually that's not the right decision.



REMEMBER

Take care to isolate benefits so that you can prove that they'll be from the project. Then those reading the Business Case can see that you've thought through the benefits carefully and that those benefits are real.

Making Sure You Can Deliver Benefits

When setting down the benefits, make quite sure that they can be delivered. If you're showing savings from the sale of a building, are you absolutely sure that someone will want to buy it? If not, then there is no harm putting in the saving, but qualify it by stating your assumption that the building will be sold within a reasonable time. You could back up the point with some stats on the average time currently taken to sell buildings of that type in that locality.

Supplying Evidence or Referencing It

Where you're claiming business benefits, back those claims up with evidence. However, if the evidence already exists, then you don't need to repeat it all in the Business Case; instead, you can reference it. So you can say, for example:

As stated by Go-4-It Consultants in their report last June, the new packaging options to be delivered by this project are likely to boost sales by 5 per cent, which represents an annual profit increase of £X.

Using Appendices

Don't hesitate to use appendices in the Business Case. You may want to make use of appendices for two reasons:

- » **Where you have an organisational standard:** If your organisation has a standard format for a submission to a finance committee, for example, the information is probably a subset of what you need for a project Business Case. In that case put the extra, project-only, information in appendices and don't submit them to the finance committee.
- » **Keeping the Business Case simple:** If the Business Case is to be seen by senior managers in particular, it helps enormously to keep it short and simple. The earlier section 'Making Sure You Can Deliver Benefits' made the point that if you claim a benefit, then there should be evidence that the level is realistic, but you can put that evidence into an appendix that readers can dip into if they want to. They'll thank you for that, and having happy managers doesn't do any harm at all to your prospects for getting the go-ahead.

- » Being proactive and looking at the big picture
- » Encouraging others and treating them with respect
- » Communicating effectively and acknowledging other people's accomplishments

Chapter 25

Ten Tips for Being a Better Project Manager

Successful project management depends not only on what you do, but also on how you do it. Your attitudes and behaviours towards people affect how they respond to you. Perhaps this whole chapter should have a large Tip icon on it because it offers ten tips that can help you successfully win people's support.



KEY TO
SUCCESS

I hope that you find this book a very real help when you are planning and controlling your projects. However, one thing I really like about project management is that you never finish learning. So, to be better Project Manager, listen to anyone and everyone who has something useful to say. Sometimes even a new and wet-behind-the-ears team member may come up with something that is really good and you haven't thought of before. As you listen and learn, do keep your brain switched on though. Some people will say things that are . . . shall we say . . . less useful! Sometimes that's when they want to convince you that their approach to managing projects is the only way. By the way, tell the junior team member that their idea was great. I've acknowledged good ideas when giving training courses where I am supposed to be the expert, and you don't lose any credibility that way. You do, however, give a well-deserved boost to the person who came up with the good idea.

Being a ‘Why’ Person

Look for the reasons behind requests and actions. Understanding *why* helps you make sure you respond appropriately to team members, senior managers and all other project stakeholders (which, in turn, increases people’s motivation and buy-in). Always look for the reasons behind other people’s requests and actions. People rarely do or think something without reason, and even if they’re wrong, you need to understand where they’re coming from.

Being a ‘Can Do’ Person

Look at all problems as challenges, and do everything you can to find ways to overcome them. Be creative, flexible and tenacious. Keep working at the problem until you solve it. Pull in other people where you need to in order to crack the problem; that’s teamwork. The UK military frequently uses the phrase ‘we, not me’, and that works for projects too.

Thinking about the Big Picture

Keep events in perspective. Maintain a focus on where you want to go and how your plan will get you there. And don’t become so focused on the fine detail that you miss something bigger that’s staring you right in the face. Chapter 12 advises to only ever have one Project Manager in the project, no matter how big or small the project. The reason is that one person has the big, whole-project picture – so be sure to have it.



WARNING

Be especially careful if you’re doing some of the work of the project as well as managing it, because then it’s even easier to miss the big stuff because you’re spending a lot of time focused on fine technicalities.

Thinking in Detail

Be thorough. If you don’t think through your project’s issues, who will? When looking to solve problems or identify options for ways forward, think around the issues too, and don’t always look for the conventional solution or what other people have done – though don’t dismiss those either.

Rear Admiral Grace Hopper was a long-serving officer in the US Navy retiring when she was 79. She gained a PhD, was a mathematician and made a huge contribution to IT with the development of computer languages, not least COBOL (which was the mainstay of computer programming for decades). She was all for the unconventional, and on the wall of her office had a clock that ran backwards. She said:

There is absolutely no reason it has to go one way.

Assuming Cautiously

Take the time to find out the facts and use assumptions only as a last resort. Where you've made assumptions, such as in planning, write them down so other people can see that a course of action is based on an assumption. With every assumption comes a risk that you're wrong. The fewer assumptions you make, the more confidence you can have in your plan. It's good to keep in mind the old saying: 'Try not to *assume*; it can make an *ass* out of *u* and *me*.'

Viewing People as Allies Not Adversaries

Focus on common goals not individual agendas. Making people feel comfortable encourages creative thinking and the willingness to try new ideas – all of which are essential to managing a successful project. But viewing and treating people as adversaries can put them on the defensive and even encourage them to become enemies.



REMEMBER

Your positive approach must also include suppliers. Remember, suppliers working on your project are part of your project and so in that sense are part of the team. If they fail, you fail; so do all you can to keep them on side and to help them.

Saying What You Mean, and Meaning What You Say

Communicate clearly. Be specific by letting people know exactly what you mean. Tell them what you want them to know, what you want them to do and what you'll do for them. You may think that being vague gives you more leeway but, in reality,

being vague just increases the chances for misunderstandings and mistakes. Be absolutely honest, and when you say something, stick to it so people learn to trust you. If you do have to change something you said you'd do because of circumstances, then don't gloss over it but be open and explain why you needed to change tack.

Respecting Other People

Focus on people's strengths rather than their weaknesses. For each person on your team, find a quality that you can respect. People work harder and enjoy their work more when they're around others who appreciate them and their efforts; just like you do.

Acknowledging Good Performance

Take time and trouble to acknowledge good performance and be systematic about it. When someone does something well, tell the person, tell the person's boss, tell other team members and tell the person's peers that you appreciate the effort and its results. On the one hand, acknowledgement is a great motivator, but on the other hand, if someone's done something good, then they deserve recognition. When acknowledging a person's performance, be specific and timely – tell the person exactly what they did or produced that you appreciate, and do it promptly. (See Chapter 14 for more about acknowledging good performance.)

Being a Manager and a Leader

Pay careful attention to your people as well as to information, processes and systems. Create and share your vision and excitement with your team members, but don't forget to share a sense of order and efficiency too. Encourage people to strive for outstanding results, and then do all you can to help them achieve those results. (See Chapter 14 for more information about management and leadership.)

Rear Admiral Grace Hopper, mentioned earlier in this chapter, was also a wise leader. She said:

You manage things, you lead people. We went overboard on management and forgot about leadership.

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About the Author

Nick Graham is a long-experienced project management consultant, trainer and author. He is now semi-retired and concentrates on writing. Unusually for those involved in project training, Nick is also a qualified teacher; a foundation which has helped him with technical writing too. His project advice is based on what works, and works well. Those who have attended his training events have described his style as energetic, lively, fun, very practical and very informative. Nick's consultancy work has ranged from helping to plan individual projects to advising senior managers how to implement project approaches throughout their organisation.

With a personal career that has covered both the public sector and the private sector, giving training and advice to a number of well-known charities as well, Nick is able to communicate readily with managers in all sectors. He is the author of a number of project titles in the *For Dummies* series, including *Project Management Checklists For Dummies* (John Wiley & Sons, Inc., 2014).

Nick lives in Kent in the UK with his wife Kath.

Dedication

This UK edition of *Project Management For Dummies* is dedicated to Max Graham Knopf, one of my grandsons, who with his bright view of life, awesome bilingual capability and intelligent outlook is an ongoing inspiration.

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