



# Project Management Training Course

Courses in:  
Management  
Supervisory Management  
Project Management  
Communication  
Customer Care  
Sales  
Personal Development  
Human Resources  
Finance  
Administration

**Dublin (Head Office) 01-8610700**

**Cork 021-4279511**

**Belfast 0845-3005207**

**Galway 091-500250**

**Manchester (UK) 0845-3005207**

**Website: [PDLcourses.ie](http://PDLcourses.ie)**

**Email: [info@PDLcourses.ie](mailto:info@PDLcourses.ie)**

# Contents

<b>1 - Introduction</b>	<b>3</b>
<b>2 - Identifying &amp; Agreeing the Requirement</b>	<b>10</b>
<b>3 - Presenting Proposals</b>	<b>19</b>
<b>4 - Terms of Reference</b>	<b>22</b>
<b>5 - Quality</b>	<b>24</b>
<b>6 - Planning</b>	<b>26</b>
<b>7 - Time Management</b>	<b>35</b>
<b>8 - Risk Analysis</b>	<b>38</b>
<b>9 - Control and Reporting</b>	<b>40</b>
<b>10 - Documentation</b>	<b>42</b>
<b>11 - Meetings</b>	<b>43</b>
<b>12 - Project Implementation</b>	<b>49</b>
<b>13 - Project Completion</b>	<b>55</b>
<b>Appendix 1: Project Budgeting &amp; Costing</b>	<b>57</b>
<b>Appendix 2: Contracts</b>	<b>62</b>
<b>Appendix 3: Project Control Documentation</b>	<b>71</b>



# 1 - Introduction

## What is a Project?

Projects are found in an infinite variety of shapes and sizes:

- The Ballinamore canal renovation
- The Channel tunnel
- An office move
- Implementing a new filing system
- Implementing Quality
- Building an office block
- Painting the front room
- Designing a project leadership course
- etc.

Each has a starting point, an end point, a budget and/or timeframe, a quality requirement and someone responsible.

In general terms, projects, are usually distinguished by certain 'procedural' characteristics:

- Specific start and end points
- An end result or product
- Stated functional requirements
- A contract or formal agreement
- Identified tasks
- Resource is forecast and its usage monitored
- Time-scales
- Budgets or resources
- Deliverables that benefit the organisation
- Specific inputs and outputs
- Acceptance criteria etc.

These are the measurable aspects of a project. What they don't take into account are the 'people' factors; or if they do, as in resource calculations, we assume factors like 'a typical man-month'.



## Human Aspects of Projects

It is appealing to try to find a single model of success for projects. I.e. that if you run your project in a certain way, it will be instantly successful. The reality is:

- Whatever can go wrong, will go wrong (Murphy's Law)
- Whatever can be misunderstood, will be misunderstood
- Constants aren't
- Project activities will always expand to fill the time or resources available (Parkinson's Law)
- A project will always spend 90% of its time 90% complete
- A carelessly executed project will take three times as long as planned, a well executed one will only take twice as long.

And, although these observations may seem trite, in fact there are good human reasons why they actually occur.

In addition to the procedural characteristics, human aspects of a project may include:

- The customer or end user's personality
- Organisational or personal change
- Being in the spotlight
- Departmental politics
- Communication difficulties
- Differing expectations
- Conflict
- Motivation
- The need to celebrate
- Stress
- Reputations
- Promotion
- Overtime
- Success etc

And success matters. Not just because of the business implications, but because the confidence of everyone involved in a project is affected by the project leader's reputation as an achiever.



# Life Cycles

Projects also go through standard stages, termed 'life cycles':

- **Interest**

When a potential 'client' starts to have an idea.

- **Initiation**

The client has definite requirements and discusses them with suppliers, who may be internal or external. (Although experience usually shows the business project leader is better off treating internal projects as seriously as external ones).

This is the time for identifying detailed requirements (called Baseline definitions), designing a solution, agreeing acceptance criteria, planning, submitting a formal proposal and, if relevant, contract negotiation.

- **Start-up**

The project is initiated, accommodation found and work begins

- **Production**

Production peaks and control becomes important because this is when slippage occurs and costs escalate.

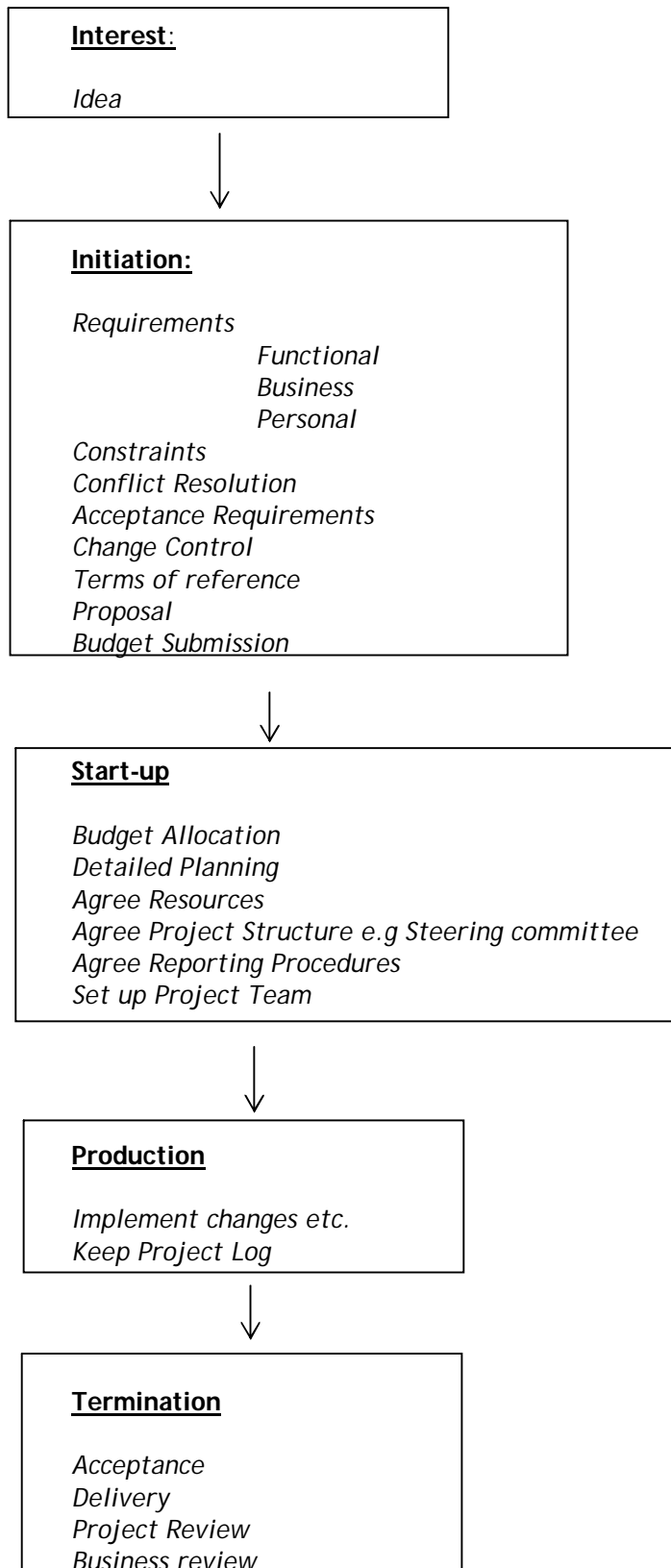
- **Termination**

This is the time for some form of 'product' testing (usually in modules initially, then in totality), prior to formal acceptance, training and hand-over.

The project is complete and the project leader moves on. Remember, of course, that as well as the project leader, the client and all those involved (users, third parties, your boss etc) have a viewpoint of where the project is at any moment in time. Which may differ from your opinion! Of them all, it is probably the person paying for it that matters most, although none can be ignored.



# Project Life Cycle - Details



## What is a Project Leader and Why Have One?

Even relatively small projects, by definition:

- Have a specific end point that must be identified and agreed before anything can progress
- Are made up of numerous tasks, often involving more than one person, and complex dependencies which have to be defined, planned and monitored.
- Are time limited meaning slippage can occur. Contingency, therefore, may be necessary and will need co-ordinating.
- Require budgets, which can be exceeded if mistakes are made, so must be realistic.
- Are unique so, generally speaking, are not repetitive. There is no previous blueprint, their background is often unstable without ready-made procedures.
- Involve change. Which means someone must understand their impact, and people must be kept informed.
- Often cross boundaries, hence need their own organisation, as well as matrix management.

The net result is: put someone in charge - i.e. a project leader. And it becomes the project leader's responsibility to ensure that, as far as possible, all involved parties are satisfied with the end product.

## Leader or Manager?

The definitions of manager versus leader are semantic and frequently vary depending upon the organisation, the personnel involved and the seniority of the person given project responsibility.

In general terms, though, a project leader differs from a manager in that, whereas both have responsibility for the project, a manager usually has additional responsibility for finance and staff, for example in terms of development and appraisal. Projects given to managers also tend to be larger, more complex, have greater impact and require extra experience.

One of the problems this presents to the project leader is that s/he frequently has no line authority over resources. Which means that persuasion, cajoling, requesting and sometimes begging become necessary skills!



## Project Management Methodology

The term Project Management Methodology is a collection of internationally recognised terminologies and practices. So any project manager in the world will know what you mean by 'Baseline' for example, or 'Critical Path Analysis'. It covers:

- Project initiation through to termination
- Solution evolution
- Customer satisfaction
- Baseline management
- Quality management

The benefits are that it results in:

- Common, visible working practices. So people know what to expect.
- Defined control processes. So people know what to do.
- Standard documentation. So it is easy to read and understand.
- A capability independent of organisation. So everyone works the same way
- Efficient, quality management. Which makes for more profit.

And it assumes that Project Managers and Leaders have standard functions, roles and responsibilities.

## The Project Leader's Functions

### Planning

- Assessing - What must be done to achieve the project objective
- Organising - Putting together different functions so they can act as a cohesive unit
- Resourcing - Acquiring people to do jobs when you need them
- Directing - Taking policy decisions
- Controlling - Acting at the day to day level to ensure that progress is made



## Roles

- Executive (Strategic)
  - External interfacing
  - Defining requirements etc
- Managerial (Tactical)
  - Day to day control
  - Progress monitoring etc
- Leadership
  - Motivation
  - Communication etc

## Responsibilities (sometimes called mission statements)

'To achieve the supplier's objectives with complete customer satisfaction and further the joint beneficial business relationship'

And there is a standard definition:

'A project manager/leader is the individual to whom authority, responsibility and accountability has been assigned for the overall management of resources (including the technical, time and cost aspects) of a project, and motivation of all those involved'

## Professional Organisations

APM - Association of Project Managers  
(Members of the International Project Manager's Association)  
85 Oxford Rd  
High Wycombe  
Bucks HP11 2DX

(Northern Ireland - Mike Browne 01232 365 131)

CEng Chartered engineer  
via  
British Computer Society  
1 Sandford St  
Swindon SN1 1HJ  
or  
Institution of Electrical Engineers  
Savoy Place  
London WC2R OBL



## 2 - Identifying & Agreeing the Requirement

Once a project moves into the initiation phase and the supplier/client contacted, the first meetings usually concern requirements.

### Principal causes of project failure

The principal causes of project failure can be summarised as:

- Lack of definition
- Lack of co-ordination
- Failure to respond to change

The first of these, poor definition, is itself often the result of

- Hasty or inadequate feasibility studies
- Lack of depth of analysis and design

In particular, a lack of a series of logical steps in production of the solution.

### System Evolution

To overcome these problems, there is a concept termed 'System Evolution' - a series of logical, controllable steps between the idea of a system and its final implementation.

In practical terms, what this means is 'get it right before you start'. I.e. before contracts get signed. An approach conforming to the Quality concept.

The first stage of system evolution is to identify the client's business requirement. That is, why a solution is required, not how it should be done. In other words what is the problem the new system/solution has to overcome? This is sometimes referred to as the Functional Requirement or the Project Background.

Note that, although some requirements will obviously be business ones, others may be personal, in which case they could be difficult to identify and maybe not written down. Nevertheless they must be listened to, their relevance understood and, if necessary, satisfied. So personal requirements could be things like "I want to be first/last", "No disasters", "I don't trust anything new", "Guaranteed help desk", "Looks good", "Easy to use" etc.

The next stage is to define what the system/solution is required to do, providing the basis for solution alternatives and sometimes called System Requirements. I.e. The project objectives. In general terms this identifies the size, performance and operating characteristics necessary to achieve the client's business requirements, so are partly about loading & capability, partly about constraints, and obviously closely associated with Acceptance Criteria (see later).



## The Baseline

Again a well known term, the baseline is the set of information that defines the state of the project at any moment in time. So up to this stage it is the Business Requirement + What the deliverable (that is the visible end product of the project) must be able to do. Later it will incorporate the solution design specification, changes, acceptance criteria, plans, contracts, reports and any amendments.

The baseline must be known, current, agreed and understood by all concerned, because changes to the baseline will almost certainly mean changes to the contract or resource agreement (see later under 'Change Control').

## Time-scales

Obviously, one important factor of the requirement is timing. When does the final product have to be implemented by? Is phasing a possibility? (e.g. Build one house, then another, then another etc.) Are there any intermediate time constraints? (e.g. The first - a show house - must be completed before January. The final house by October)

However, beware when given fixed date/s. Investigate the relevance of that date. Is it the end of the financial year? (Which could affect when money becomes available!) Alternatively, the date is not always the relevant factor itself, but could be dependant upon some other factor outside your control, which would then need careful monitoring. For instance, you are asked to have the project finished by the end of May. This may be because that is when the client thinks he will need it. Why? What is happening then? Then if the client/user's circumstances change (forward or back), although you would technically have satisfied the requirement, extra customer satisfaction can be gained by being flexible enough to accommodate it.

## Acceptance criteria

Also before contract signature or formal agreement, *acceptance criteria* need to be defined. Know what you are letting yourself in for. Acceptance criteria are associated with the deliverable. Note that this could include such things as customer training, documentation, or setting up on-going support.

Agree everything at this stage and have it documented, regardless of how easy or trivial it may seem. That way, later arguments are avoided, you know when the job is finished and a charge can be levied. Time can be made up at other stages of a project, but any delay at acceptance time means a delay in payment. Charging may not be relevant in internal projects. Instead, it is more often a case of one manager having to pay more out of his/her budget to finish a project because another manager won't accept it.



How will the client judge the solution is acceptable, does what is required and therefore worth paying for or signing off as complete? If the project were, say, software development, this could be in the form of system testing with live data. The process and results of such trials need defining now before going any further in your project planning and solution design.

And what is the final acceptance *procedure*? In the above example it could be the signing off of a trials document.

In summary, what exactly will be assessed, against what criteria and by whom? And put it in writing as part of the baseline.

Don't forget to include the effort and expected time required for acceptance trials in your plans. Moreover, ensure you gain client or user commitment *now* to provide any necessary time, data and resource required from their side. You do not want to be held up at final acceptance time because resource from the user is unavailable (an extremely common problem). Example: a new canal may require a boat of a certain size to be able to navigate it. Will the boat be available in time for initial testing prior to final completion? How big will the boat be? Etc. So, again, obtain *written* confirmation at this stage for procedure in the event of unavailability. [*Tip: Regardless of what you have been promised, decide what happens if testing is delayed because client/user resource is suddenly unavailable.*]

So, identify and agree what the client and/or is responsible for providing, e.g:

- Time
- Accommodation
- Data
- Resource
- Materials
- Expertise
- etc

Note. If the client is not competent or experienced at specifying acceptance criteria (as is often the case because projects are, by definition, usually unique), it is beneficial in the long run to help them identify relevant, practical and worthwhile ones. It does not help anyone's long term business to fool clients into believing something is satisfying their business requirement when actually it isn't.

## Feasibility study

Frequently at the commencement of a project the project leader will conduct a feasibility study. This will examine various aspects of the project in outline, taking into account what is already known, to determine whether it is worth proceeding and what problems could affect its success. (Where success is usually measured in terms of profitably producing the deliverable.)



In large projects the feasibility study may take several weeks, in other cases it may just be a day or two. Typically, though, it would act as a precursor to the more detailed fact finding outlined above with a go/no-go decision taken at its end.

## Multi-layered projects

It is often the case that major projects become multi-layered. That is one department may be responsible for analysing a requirement and submitting a proposal, whereas another may actually implement the recommendations. An example could be in business process re-engineering where one department identifies problem areas and makes recommendations for a target area to implement later.

In such instances the investigating department should treat their fact finding as a project in its own right. So, in this case, the project could consist of:

- Initial contact
- Feasibility study
- Go/No-go decision
- Detailed fact find
- Recommendations
- Project hand-over

Here, the feasibility study should ascertain why the project is required, which areas are to be investigated, what the project is required to identify, with plans drawn up (see later) for the detailed fact finding stage. Again, apply the system evolution check-list above remembering that here it refers to characteristics of the fact find as well as the final project end point.

Since, in this case, the end-point deliverable consists of 'Recommendations', the project leader should still identify acceptance procedure and criteria, but they would be of the form of 'How will the recommendations be presented?' (e.g. in writing or in a presentation); 'How will the decision to accept the recommendations be made?' (e.g. a committee or a single decision maker); 'What format should the recommendation report take?' (layout). 'What should it consist of?'

## Questioning Techniques

The most important rule when identifying requirements is to avoid being drawn into discussing or accepting a client solution before you have agreed the requirement. Nor does "What do you require?" usually produce the sort of structured outline with details that you would wish for; apart from any other reason, most people have rarely thought through exactly what they need and why.



## Question types

There are three main question types to use at this stage:

- **Tell me about** (to start off)
- **Open** (for information)
- **Closed** (to summarise and check understanding)

### 'Tell me about' Questions

These questions are designed to start off a conversation. For example:

"Could you outline the basic situation?"

### Open Questions

These are designed to elicit more information and use 'what', 'where', 'why', 'when', 'which', although avoid using 'how' because this directs conversation away from requirement, towards solution. (Remember, you don't want a solution before you know what is required). So:

"Why is that necessary?"

"When is the end product required?"

"What areas are **not** included in the requirement?"

Follow these up with more probing **Priority** questions.

A priority question is of the type "What is your main area of concern?" (Note the word '*main*'). This forces the client to **rank** requirements, something you are going to need to know later. The use of the words 'you' or 'your' also helps encourage **personal** opinions which are often particularly informative. [*Tip: Give the client time to think when asking priority questions, so don't interrupt his/her thought process. Follow up with "Why is that so important?"*]

### Closed Questions

Closed questions prompt the answer "Yes" or "No" and are used when summarising (to clarify understanding):

"So what you need is.....is that correct?"

### Structuring your questions

A useful approach to the problem of structuring fact finding is to use the **BED** technique:

- **Boundary**
- **Elements**
- **Details**



## Boundary

During your questioning, initially restrict the client to an overall outline, identifying *why* a solution is necessary (not what the solution is), what the current problem is, where priorities lie and the overall time-scales. I.e what is the business reason for the project?

For example, "So, you need a way of transporting freight and passengers from one side of the river to the other, avoiding the current method which involves a long and costly drive around the county. You need the solution by March because that is when the new style of trucks start arriving. Is that a fair summary?"

## Elements

Once the overall requirement boundary has been established, then identify the various elements (*i.e. constraints*) within it.

Start off with 'Tell me about' and 'Open' questions. So, if it were a method of transporting freight and passengers across a river, you could ask:

"You have outlined the basic problem, what other things do we need to take into account?" (For example, maybe weather is an issue, or political considerations)

Again follow up with a summary and closed question to check understanding. One of the benefits of structuring the discussion this way is that people often remember elements they would otherwise have forgotten. You can even prompt them from your master checklist.

## Details

Once the main elements of the requirement have been identified, you can now move onto details.

"What about volumes, how many trucks per day?"

"What are the cost restrictions?"

"Which days are busiest for freight?"

"What constraints are there upon a solution?"

Again follow up with a summary and closed question to check understanding.



## Note taking

The purpose of taking notes is simple: It avoids having to rely upon memory for the right information.

There are many ways of recording information of which the most common are:

Technique	Advantage	Disadvantage
Longhand	Complete Gives speaker a rest	Difficult to decipher Time consuming
Key words	Brief Quick	Unstructured
Brain maps	Brief Structured	Poor for flow processes
Flowcharts	Good for showing flow	Don't show information
Pictures	Good for positional information	Inaccurate if not to scale
Cassette/video recorder	Complete	Inhibiting

So mix and match, but always show or read the results to attendees before the end of the meeting to ensure they are correct.



## Reconciling viewpoints

### How people differ

One of the problems with identifying requirements is reconciling different viewpoints. Typically, on a project, there will be any number of different people involved, all of whom have their own opinion about what the end product should look like and what your role should be. There will be decision makers who can say "Yes, do it", others who carry significant influence but without having authority to make decisions, and sometimes 'No-men', typically technical advisors, who cannot say "Yes" but can veto an aspect of the solution or requirement. Each will have business and personal requirements "I want to be first/last", "No disasters", "I don't trust anything new", "Guaranteed help desk", "Looks good", "Easy to use" etc.

For example, although there is often a client (the person requesting and paying for the solution), in many cases the end user is someone else entirely. E.g. when renovating a canal, the client could be The Ministry of Works, whereas the end users would be boat owners and anglers. Without being cynical, the one thing you can rely on are that everyone's requirements will differ. Certainly, the parties will often agree (overlap), but on other occasions they will conflict or require additions.

So, your initial client contact may tell you that what is necessary are three type A and two type B. One user, however wants three As, two Bs (overlap) and a C (addition). Another says the solution needs one A but no Bs (conflict). Who do you satisfy and how?

In general terms there is invariably some disagreement about every element of the solution, its planning and delivery. So, as soon as possible, talk to all interested parties, especially the users and your own management, identifying areas of disagreement, overlap, conflict and addition.

### The process of reconciliation

Sometimes additional requirements can be accommodated. On other occasions the cost will be too high. Conflicts, however, always require resolution. Never just hope they will disappear.

You may be able to resolve such conflicts yourself, but, if that is impossible or too difficult, you could simply identify the person you consider most important and produce what they asked for. The problem then is that it appears you made the decision, often causing alienation against you. A more acceptable alternative is to try the 'lowest common denominator' method. This involves identifying the person who controls the parties at conflict, getting that person to decide and broadcast the decision. Obviously you need to be diplomatic in your approach, but it does mean that 'political' decisions are limited to other people, avoiding yourself. A sensible strategy!

Whichever method you chose, it is also a sensible strategy to find something you can offer the 'losers' to compensate for their loss that you can easily include (preferably at little or no extra cost).

*Remember, though, that all such decisions must be signed off as part of the baseline.*



## Change control

Before contract signature or agreement, a formal change control mechanism must be established (you don't want to be arguing about the method of changing a contract after it has been signed!)

Basically, change control is the means for amending the contract or agreement as a result of changes to the Baseline.

No solution or product during its development and implementation ever remains the same. Change is inevitable and, unless agreed with the client, the supplier almost certainly has to bear the cost of changes.

This demonstrates the importance of recognising that contracts or agreements are not unalterable concepts written on tablets of stone. All contracts and agreements are re-negotiable and, in large projects, in a constant but controllable state of flux.

Again, on large projects there is usually a Change Board or Committee, on a smaller one it may be controlled by a legal department or within the user's domain. But all changes to the Baseline must be evaluated for cost and incorporated via a sign-off procedure (involving all parties) into the contract (often as an addendum). So, no change without

- EVALUATION
- AGREEMENT
- SIGN OFF

Moreover it is sensible to record all requests for change whether implemented or not.

The change section of the project documentation, therefore, should be capable of backwards and forwards audit, probably via reference numbers from original contract + changes, to current state and vice-versa. In many businesses and formal projects this is a Quality requirement anyway.



## 3 - Presenting Proposals

In an earlier section we referred to Systems Evolution, the logical steps in designing the proposed product/solution. Following the definition of requirements (i.e. why a solution is required, what it must be able to do and any constraints) the next logical stage is to identify a solution. Notice that this is what the project must finally produce, rather than details of how it is produced, and could include user training, documentation etc.

### Solution Specification

The Solution Specification, details factors that go into the development and design of the final solution. On small projects, it is effectively an outline of the proposed deliverable, being part of a formal document showing how it would satisfy the requirements of all parties.

### Pre-proposal

Prior to formal proposal, it is suggested that the 'supplier' submits a *pre-proposal*, the purpose of which is to help both client and supplier move towards a practical and relevant end product that, as far as possible, satisfies all parties concerned - in particular, the client, the end user and the supplier/project team. There is no point in recommending a solution which the supplier cannot provide or makes a loss on!

Moreover, from a tactical viewpoint, experience shows that, wherever possible, rather than opting for a single proposed solution, it is usually better to approach the client/user with several initial alternatives, highlighting the relevant pros, cons and approximate costs of each.

Then, once a preferred choice is made it should then be the subject of accurate costing before a final proposal is submitted. Clearly the detail of such proposals will differ depending upon the size and complexity of project, but it is recommended that, regardless of size etc., this strategy is adhered to.

### Presenting the Proposal

#### The Proposal Document

This should contain several sections, covering at least:

- An opening summary of the requirements and constraints
- A summary of the proposed solution/s
- Summary costing estimates (or price quotations if known)
- Likely delivery schedules
- Statements regarding decision dates, how they affect delivery and any immediate actions required
- Appendices containing detailed requirements and solution details



## Presenting the proposal

Although a proposal is a document and can be submitted by post, it is always advantageous if it can be presented in person. The benefit of doing so is that questions and concerns can be addressed at the time rather than over a long period of backwards and forwards communication.

The following points are equally applicable to any project presentation:

Start by welcoming any attendants, introducing yourselves and briefly outlining your role and responsibility. [*Tip: To avoid possible embarrassment, put your name card on the table in front of you but write audience names and titles on your side of the card.*]

Explain what you are going to do, emphasising the agenda and objective for the presentation (e.g. "The purpose of this presentation is to acquaint you with our proposed solutions, the objective being to agree your preferred choice by the end of the meeting".)

Agree the strategy for asking questions. Some people request questions are deferred until the end of the presentation, but this is not a recommended strategy. Firstly, if someone wants to ask a question they should be allowed to - you can't tell a managing director not to ask questions! Secondly, if there is something they don't understand, there is no point in going any further. Thirdly, there is no point in saving a question until the end, the answer to which affects your whole proposal. Finally, you will relax better once a question/answer routine is established.

Take the first agenda item, explain its relevance and scope then summarise it before going into detail.

Any complex issues should be backed up by a visual - either an overhead or handout. The advantage of a handout is that it can be constantly referred to. The disadvantage is that while it is being studied you temporarily lose the audience's attention. Certainly, any complex process, organisation or flow of information merits a visual. [*Tip: Avoid too much information per page.*]

Beware of humour. Most jokes are based upon sex, religion or other people's misfortunes and you are bound to annoy someone.

Have an outline script but don't read it word by word unless it is absolutely essential. That always sounds boring, inhibits questioning and if you lose your place you are finished. [*Tips: Write all notes in large capital letters that you can read at a distance. Have separate lists of what you must cover, what you would like to cover and what you can add if time permits. Have a detailed script handy in case you need to refer to it.*]

Don't preach to the audience, talk with them. Address your main points to the most senior attendee but make regular eye contact with the others. [*Tip: Avoid gripping a prop such as the table, flipchart, chair etc.*]



Try not to talk too quickly. [*Tip: If your notes consist of just paragraph headings, ensure you pause for a couple of seconds between each heading to allow time for thought and questions.*]

Be prepared to ask the audience, especially its senior member, questions (although not in the first few minutes while they are settling down.) [*Tip: Rather than saying "Are there any questions?" which may produce an uninformative "No" reply, ask something like "What would you see as the major impact on your organisation of what I have covered?" (An opinion question). In such a case it helps if you warn the audience at the beginning of your outline that its purpose is to examine its implications.*]

## Gaining Commitment

The primary purpose of submitting a proposal is to gain the client/user's commitment to proceed with implementation. (And although, in some circumstances, it obviously makes sense to start work prior to formal go-ahead, this always contains an element of risk.)

So the question must always be asked "Do you want to proceed?"

Some people, however, find this a rather daunting and blunt way of seeking approval. In such cases you can lead up to the question more gently in a series of steps by asking questions such as:

"Taking into account the lead time to delivery, what is the latest date we should practically agree to proceed?"

"Other than what we have covered so far, what other information do you require to help you make a decision to go-ahead?"

"In order to ensure all parties are clear about the requirements and solution, what sign off process would be most applicable?"

"How do you feel about what we have covered so far?"

"So can I take it that you are agreed in principle with our proposal?"

Nevertheless, at some stage you must get formal approval and something on a piece of paper. This, along with the proposal itself must be entered into the Baseline as it defines what work will be entered into. Similarly any contract that is signed.



## 4 - Terms of Reference

Once the client has agreed the proposal in principle, now the time to establish project Terms of Reference. These describe the boundary, constraints and summary objectives the project leader will operate within, and require agreement with all parties concerned.

There are normally several constituent elements to terms of reference which should be drawn up for each member of staff on the project. They should contain, as a minimum:

- Job title
- Function & Responsibilities
- Project purpose & objective
- Time-scales
- Authority levels
- Accountability
- Staff reporting to you
- Who you report to
- Monitoring & Reporting procedures
- Budget responsibility and constraints

- **Job Title**

Project leader, manager, technician etc

- **Function & Responsibilities**

A brief description - probably 20 -25 words - of the job function and the primary responsibility.

- **Project purpose & objective**

A summary (from the Functional Requirements Specification) of the purpose for the project plus the project *end point objective*.

At this stage you should differentiate between project end point objective and the **deliverable**.

The project objective, in simple terms, is its end point, the moment you can definitively say "The project is now finished" and in many instances the basis on which invoicing can be made. But this is rarely the project deliverable. In the case of a new canal, for example, the deliverable could be the finished canal. But perhaps an opening ceremony has to be completed, which again may come within the project terms of reference. The end point, as far as the project leader is concerned, therefore, would probably be a signed off document stating that the canal has been delivered to specification. So it is that sign off which the project leader must constantly focus on. Everything else is a means to achieving that end. This is why objectivity is a key skill to project leadership and why the end point objective must be phrased in no-argument crystal clear fashion. You don't want to be discussing whether a job has been finished when you want payment. Agreement now is the key to success later.



So, remember the acronym for objectives - **SMART**

- Short
- Measurable
- Agreed
- Realistic
- Time-bound (i.e. the end date)

- **Time-scales**

This would show the date by which the end point objective has to be met. It would also show subsidiary or interim key event dates on which part payments are made, when relevant.

- **Authority levels**

An important principle of successful leadership is 'No responsibility without authority'. In other words you must have the power to do what is expected of you. Sometimes this is automatic, obvious and easy. But on other occasions your authority, particularly for resource usage and expenditure, may need to be cleared at a higher level. Get it sorted out now and signed off. Don't wait for a lengthy and delaying argument later on about whether you are allowed to order something.

- **Accountability**

This frequently misunderstood term means knowing what you have to be able to *account* for. In other words being able to say, at any moment in time, where your project stands in terms of achievement against plan and budget.

- **Staff reporting**

This is a summary of the various staff working on the project, not forgetting those who you may have no line control over - typically people working for others who you only have a matrix responsibility for (e.g. sub-contractors).

Matrix management is a large subject, but like everything else, agree at this stage who is doing what and when. Again, ensure it is signed off by the manager responsible, particularly external resource being provided by, for example, other departments, the end user or client.

- **Who you report to**

This identifies your direct and indirect lines of reporting.

- **Monitoring and Reporting procedures**

Accountability naturally leads onto identifying and agreeing monitoring/reporting procedures, a topic covered later. It will establish what you monitor, how and when. Similarly upwards reporting.

- **Budget responsibility and constraints**

This identifies what money and resource are available together with any phasing requirements.



## 5 - Quality

Quality is all important these days as a differentiator. Organisations quote their ISI no. And the definition of a project manager given earlier is from the International Standards Institute.

How does Quality work as a differentiator? Answer: Organisations that do not conform are perceived as unprofessional, especially in business, government or academic areas.

The other aspect to quality is attitude: So, "Get it right on time, first time, every time."

### The Quality Absolutes

- Quality has to be defined as conformance to requirement (i.e. Baseline) - not goodness
- The system for creating quality is prevention not correction
- The performance standard must be zero - not 'that's close enough'
- The measure of quality is the Price of Non-conformance (often referred to as PONC)

### The Project Leader's Quality role

Since the Project Leader has a responsibility to produce a quality result, what is actually needed? Answer: Quality assurance and control. Terms which are becoming unfashionable these days with the shift towards everyone having responsibility for quality, but the functions still need to exist and be understood even if everyone is in some way responsible for them.

### Quality assurance or quality control?

Quality control is the actual checking. Quality assurance is ensuring checking gets done i.e. prevention

### Why do Project Leaders need to know all this?

- If you advertise as a Quality organisation you have to do this anyway
- Because you ought to be doing it to ensure meeting requirements (although not necessarily as separate functions)
- If the client is operating a Quality approach they will expect you to do it and be unimpressed (or possibly veto you) if you don't
- Some of your third party colleagues (e.g. National Telecom agencies) will be using Quality approach.



## Project image

The image a project generates depends upon the perception of the client, which itself is influenced by every client/project interaction. Commonly occurring factors are:

- Personal appearance
- Noise
- Attitude
- Answering the phone
- Message taking
- Office tidiness
- Communication, both verbal and written
- Time keeping
- Attitudes to quality
- Client orientation
- Results orientation
- Confidence        etc

But remember these are perceptions, often occurring within the first few seconds; reality is almost irrelevant!

## Affecting image

Unfortunately, if there is no prompting, most feedback on image tends to be negative, therefore too late and invariably remembered. So the project leader needs to be proactive in generating a positive project image.

This may mean having:

- A written standards manual
- A visible quality approach
- Image workshops
- A suggestion box
- An external project image audit etc.
- Instilling the image across the team.

And remember a quotation by Jan Carlson, President of SAS airlines:

*"Coffee stains on the flip down trays prove we don't do our engine maintenance properly!"*



## 6 - Planning

Producing an effective and realistic plan is important for two main reasons:

- a) It raises your likelihood of achieving the project requirements
- b) It provides confidence in others that you will get the job done correctly

In general terms planning involves:

- Assessing - What must be done to achieve an objective
- Organising - Putting together different functions so they can act as a cohesive unit
- Resourcing - Acquiring people to do jobs when you need them
- Directing - Taking policy decisions
- Controlling - Acting at the day to day level to ensure that progress is made

### Strategic Planning

Most organisations today (with the possible exception of some Government departments!) are run on the basis of Missions, Long Term Goals, Objectives and Strategies. These are set or revised, usually before the beginning of a new financial year, by the Board of Directors, Senior Executives etc., and it is the individual manager or leader's job to translate these into tasks for his/her department or project.

This translation should be part of a co-ordinated framework to ensure that all departmental objectives etc., add up to the overall requirements without overlap or omission. Certainly in a large organisation the control of this can be a challenging task in itself.

#### Mission statements

A mission statement is usually scripted as an overview of why the unit (project, organisation or department) exists, and provides a framework to operate within. It will therefore allow people to answer the questions 'Should we be doing this task? Is it compatible with our business/project?'

So, for example, in the 1960s, NASA's mission statement was 'To increase American involvement in space exploration thereby enhancing American reputation in science and technology'. In other words, it was not a purely scientific venture but designed to promote business proliferation.

A business today might have a mission statement that reads:

'The ACME project exists to identify a service XYZ could offer to its customer base and any other compatible equipment, while providing pleasurable and profitable employment to its workforce'.



As a general rule, which equally applies to goals, objectives and strategies, such statements should be brief and memorable. A statement which is long or imprecise is difficult to remember and hence unlikely to be achieved.

## Long term goals

A long term goal is a measurable statement supporting the mission statement of where the unit or project is trying to be at some time in the future.

So, again, NASA's long term goal was 'To land a man on the moon by the end of the (1960) decade', later modified by popular pressure to include 'and return him safely'!

In business, a common mistake is to miss out part of the mission statement requirement. For example the statement 'ACME will become the major supplier of profitable service to XYZ within three years and second overall in the marketplace, in revenue terms, for servicing Black Boxes' does not address that part of the mission statement referring to the workforce.

## Objectives

An objective is a statement, usually short term up to a year, of what the unit is to achieve (again supporting the mission and long term goal/s).

A NASA objective could be 'To design a manned lunar landing module by the end of 1967'. A common mistake here is to attach too many parameters to the objective.

All objectives, however, should have certain properties, often remembered by the mnemonic **SMART**. Objectives should be:

**SUCCINCT** (preferably less than 25 words)

**MEASURABLE** (i.e. how you will know it has been achieved, see 'Indicators of Success')

**AGREED** (an objective that is not agreed is unlikely to be achieved)

**REALISTIC** (it is OK to be challenging, but unrealistic objectives are never achieved)

**TIMEBOUND** (when the objective is to be achieved by)

(N.B. Some people use '**ACHIEVABLE**' instead of 'agreed', although this is rather similar to **REALISTIC**)

## Indicators of Success

These do not need to be included in the objective statement, they can be attached as separate statements.

So, in business terms, an objective could read:

'ACME will achieve profitability by the end of the next financial year. This will be measured as greater than 5% return on capital employed, and profitability per head will be at least £5,000'.



## Strategies

A strategy defines **how** an objective will be achieved. So, for example:

'The ACME project will employ mobile service agents as well as providing a central depot for customer returnable items'.

## The Project Leader's Role

Once the corporate objectives and strategies for the year have been agreed, the project leader should agree with his/her boss which parts are relevant in his/her project and what strategies to employ. This must be done with care to ensure no overlap, conflict or omission occurs compared with other units or projects. At the same time, remember that there is no reason why small projects or even individuals should not have their own mission statements etc.

### Defining the project environment

The project environment is not the physical location of the solution but the project leader's total area of responsibility. I.e. Everything that affects or is affected by the solution that s/he can influence.

Mainly:

- People
- Processes
- Information
- Materials

But may also include:

- Location
- Transport
- Image
- Quality
- Safety
- etc



## Key stages in the planning process

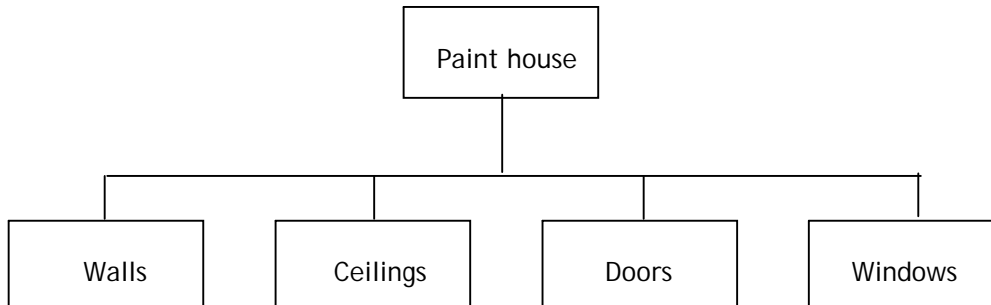
The main stages in the planning process are:

- Defining and agreeing project objectives
- Establishing work packages
- Defining milestones
- Scheduling activities
- Estimating resource requirements
- Risk analysis
- Producing visible plans

## Work Breakdown Structures and Work Packages

Having defined the project's overall objectives and strategies, the leader then needs to perform a **Work Breakdown Structure (WBS)**. This is the splitting of a major task or project into various constituent elements termed *work packages*, allocating sub-objectives and milestones to each showing progress. *[Tip: Don't worry about the order of work packages at this point]* Note that a milestone is a measure of achievement not an activity. So a milestone could be 'ABC Co. invoiced for job X' whereas the corresponding work package would be 'Perform job X'

Work packages can be drawn on a hierarchic chart with the name of the person responsible attached to each later on.



## Work Package

Job
Responsibility
Reference
Considerations Estimate



## Scheduling

Once work packages have been identified, which could be anything from 'Install machine by October' to 'New factory on line by June next year', they need to be scheduled i.e. put into date order.

Because this involves setting manning levels, training requirements, tool acquisition etc., it is an iterative process i.e. one which may need repeating several times to get right, and may ultimately require amendment to milestones or even overall objectives.

There are no rules for getting this stage right every time, particularly since some of the parameters need to be guessed at. However if you don't use other people's knowledge and experience to help, especially those who are likely to be involved in doing the job, you can guarantee it will be wrong.

One approach, though, involves using three different estimates:

- O - optimistic time, how long the activity would take if conditions were ideal
- M - most probable time, if conditions were normal
- P - pessimistic time, if significant proportions of the things that could go wrong, did

A commonly used formula is  $(O + 4M + P)/6$ ; however bear in mind Parkinson's Law that work expands to fill the time available, so the formula is often a self-fulfilling prophecy!

*[Tip 1: Include your own resources as well as the user/client in acceptance trials.*

*Tip 2: Initially perform this task ignoring holidays, meetings, time off sick etc]*

This is the stage at which costs, and hence budgets, need to be finalised and agreed.

## Planning Aids

A good guide to producing plans is that they should carry a **Visible MESSAGE**.

They should be **visible** and contain:

- **Milestones**
- **Estimates**
- **Schedules**
- **Standards**

and **Age** with time (i.e. can be modified if necessary)

Two commonly used methods of visible project planning are Gantt charts and Network diagrams.

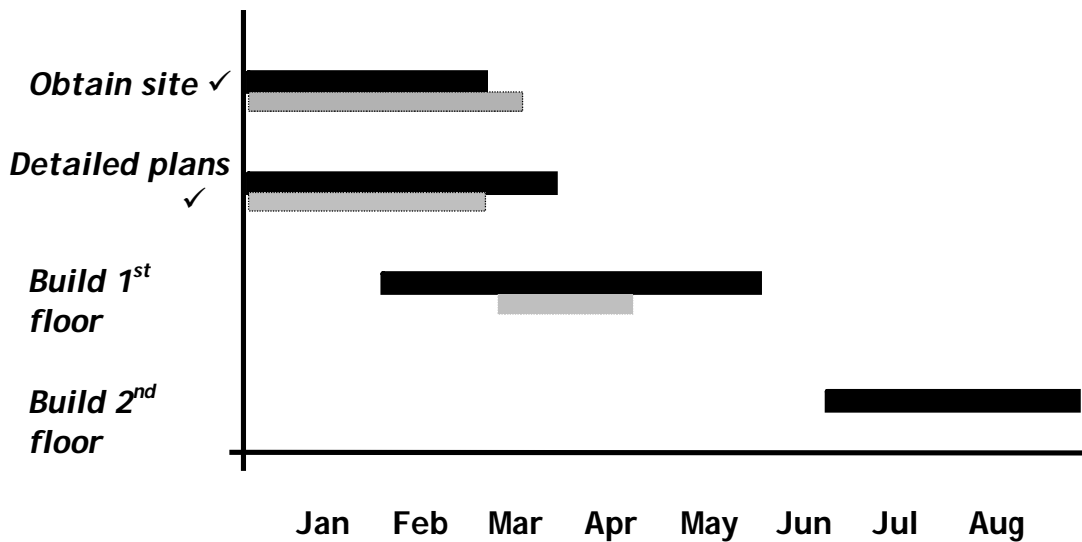


## Gantt Charts

A Gantt chart shows work packages, in line form, highlighting their current level of achievement and projected end dates.

Example: Simplified chart for a house build:

### Task



Estimate



Actual



N.B. Gantt charts can show when someone is actually working or the total time taken, whichever is most useful.

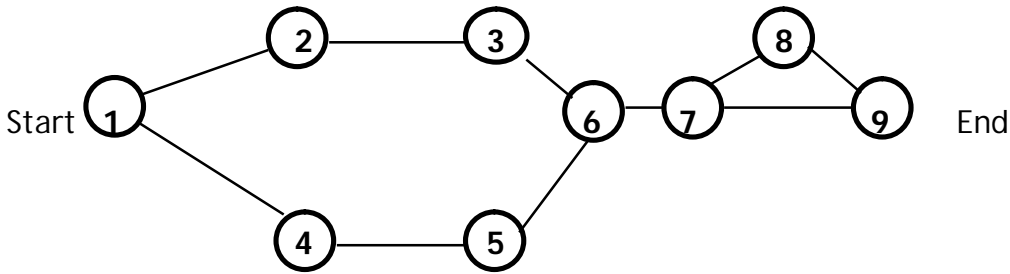
## Network Diagrams

These show the **flow** of activities involved in a complex task and have the advantage of showing parallel as well as dependant activities. They are sometimes, incorrectly, referred to as PERT networks. In fact, PERT is an acronym for **Project Evaluation and Revue Technique** of which a network diagram is one tool.

This form of network diagram shows activities as straight lines and end points (milestones) as the circles or *nodes*.



## EXAMPLE



Such a network has the advantage over a Gantt chart in that it shows *dependencies*, so activity 4-5 cannot start until activity 1-4 has been completed, and *parallel* activities, so activity 4-5 could be performed in parallel with activity 2-3.

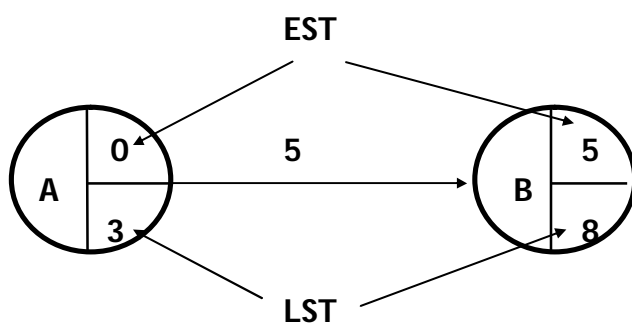
You can enhance a network diagram by showing time-scales along a bottom axis and even draw completion lines alongside activity lines. And, although this approach is used world-wide by project managers, it is equally useful for planning and monitoring any task.

Sometimes, when using network diagrams, you will need to include 'dummy' activities. These will avoid needing to define a complex node as 'Activity A complete, activity B complete, activity C complete etc'.

When performing *critical path analysis*, two new terms need to be introduced:

- Earliest start time (EST), determined by the activities preceding the event and is the earliest time which any subsequent activities can take place
- Latest start time (LST), is the same or later than the EST, and is the latest time at which the previous activities must be completed to prevent the whole network being held up.

### Example 1

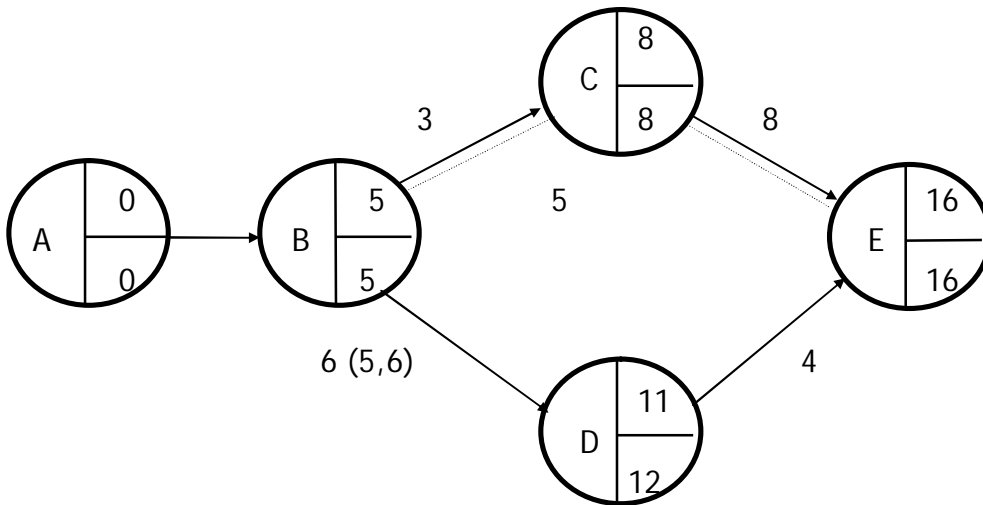


(Activity A-B is assumed to start at time 0 for the purpose of the example)

The forward pass starts at A, the EST in this case being 0. Moving left to right the *subsequent* activity time (5) is *added* to give the EST for the next activity.

The backward pass starts at B, the LST in this case being 8. Moving right to left the *previous* activity time (5) is *deducted* to give the LST for activity A-B.





In this example, given EST and LST for activity A-B as 0, the resulting finish date for E is 16 following path A-B-C-E. Working backwards shows that, for activity D-E, the EST is 11 but LST is 12, giving a day spare (*float or slack*). The *critical path* (dotted line) is that which would cause the end date to slip and goes through A-B-C-E.

Note that activity B-D has an EST of 5 and a LST of 6. To make this clear on the diagram these are shown in brackets alongside the activity.

A similar analysis can be conducted on Earliest Finish Time (EFT) and Latest Finish Time (LFT).

The easiest way to produce plans of this nature is probably in the following order:

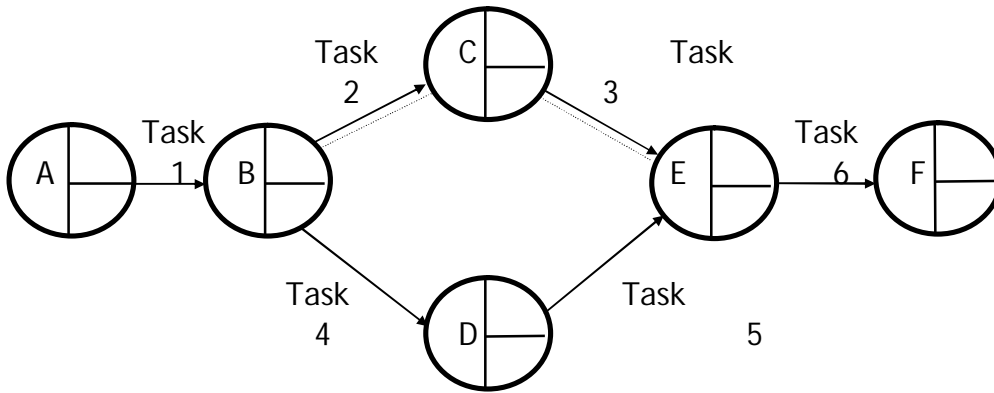
1. Use work breakdown structure to identify the major work packages
2. Draw a logical network diagram showing work packages and corresponding events without any time constraints
3. Insert activity durations and event times
4. Identify critical path/s
5. Adjust resources to optimise start and end dates
6. Re-draw to time scale
7. Copy to Gantt chart if required

Various computer software is available (e.g. Microsoft Project) enabling you to input activities, dependencies, parallel activities, manning levels, required completion dates etc. The software will then calculate earliest/latest start dates, earliest/latest completion dates, float and critical paths. It can also be used as an ongoing monitoring tool, again showing slippage or savings. Some will also show progress on budget by work pack. What it cannot do is swap resources around to identify the optimum utilisation.

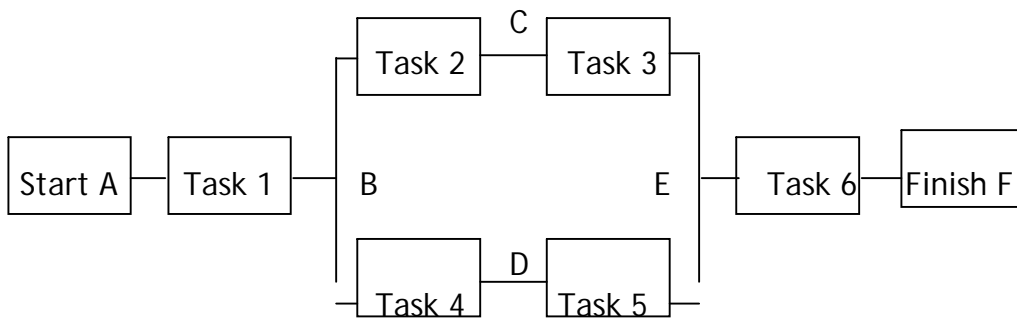
Note: You can also represent a network using lines to represent events and nodes as activities (which is how *Microsoft Project* does it in its PERT view). In this instance two corresponding diagrams are shown overleaf. It is quite common to use both forms of diagram - whichever is clearer at the time. The disadvantage of activities as nodes is that they cannot be used on a timeline, whereas with events as nodes you can.



**Events as nodes**



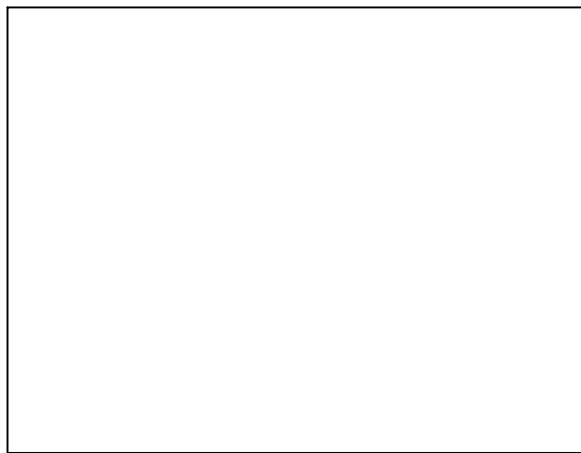
**Activities as nodes:**



**Microsoft notation when using activities as nodes**

**EARLIEST START**

**EARLIEST FINISH**



**SLACK**

**DURATION**

**LATEST START**

**LATEST FINISH**



## 7 - Time Management

Managing your own time as a project leader is a sub-set of the requirement to manage the project time. So the same principles of planning apply:

- Define and agree main task objectives
- Establish work packages (or sub-tasks) within the main task
- Define intermediate and end milestones
- Schedule activities
- Estimate resource requirements
- Identify what might go wrong
- Produce visible plans

This systematic approach applies to all activities of any size or importance - meetings, preparing reports, phone calls, monitoring work etc. Again, apart from improving the likelihood of doing a task as required, it demonstrates a professional and competent approach which automatically inspires confidence.

One implication is that, for a given activity, someone, usually the project leader needs to be in charge. In the case of a meeting, for example, this would be the chairman.

### Project v Other Work

In an ideal world, the project leader would be able to dedicate his/her time to the project. Reality, though, very often necessitates running a project alongside normal day to day activities which leads to complications and clashes of priorities.

The easiest way of reconciling this problem is to recognise in advance that it will happen and plan for it. This in turn will mean identifying which elements of your normal job will need performing by someone else. [*Tip: Remember to include their training and monitoring time in your overall project plan.*]

You will also have to obtain clearance from your normal manager for this, so decide how you will achieve this. Sometimes you may need to resort to the 'Lowest Common Denominator' method, possibly persuading your manager and project manager to jointly agree your overall work responsibilities. *Remember that it should be your manager who assigns priority to your major work blocks, you decide priorities within them.*



## Daily Planning of Project Work

On a day to day basis, work needs to be planned. One way of doing this is to identify the various work packages you need to do that day and allocate them a ranking based on **importance** (something that affects a project milestone) and **urgency** (something that affects other people).

For each task, identify whether it is urgent and/or important then schedule activities as follows, for example:

First - Daily admin. tasks that take a short time

Second - Tasks that are urgent and important

Third - Tasks that are urgent

Fourth - Tasks that are important

Fifth - Other tasks (see later)

Although decide your own priority rankings. You can even sub-rank urgency and priority, for example urgency 1, urgency 2 etc.

Give each a time allowance by which it must be completed. Then list all the activities separately as *events*. For example, 'Invoice prepared', 'New screws ordered', 'Progress report written', 'Decision made on building estimates'. That way you can tick them off when complete. A long activity over several days should be broken down into sub-activities, each having intermediate milestones.

Once you have drawn up the day's schedule (possibly extending it over the week), start work, keeping an eye on how an activity is progressing.

Sometimes you will over-estimate, giving you spare time. On other occasions you will under-estimate causing time problems. In this event you should do two things:

- Realistically identify why your estimate went wrong and learn from that for the future
- Decide whether to:
  - a) finish the current task (slipping all other activities for the day),
  - b) stop the current activity and reschedule it for later, or
  - c) miss out some of the activity.

Which decision you take will be dictated by circumstance but, in all instances, you need to notify the relevant people expecting activities to be finished and warn them of the slippage or omission. They won't like the slippage but will appreciate you warning them of it! Then you should reschedule all affected activities, giving them a higher priority next time round. You might, at the same time, be able to take some other short term remedial action to limit the problems that slippage would otherwise create.

A common problem of time management is handling paperwork. Despite all predictions to the contrary, the paperless office rarely exists. And even where it does, people are swamped by E-mail instead!



One approach to paper is limiting how much it is handled. When you get your daily mail go through it labelling each communication as 'Action', 'File' or 'Reject'.

'Action' items then generate activities in your daily plan, the original document marked 'file'. 'File' items appropriately, there and then - don't let a stack build up. 'Rejects' are filed in the bin.

[*Tip: It often takes twice as long finding a document filed in poorly organised data folders as on paper. So, if you aren't an expert on computerised filing systems and clearing procedures, talk to someone who is.*]

## **Spare time, Self Control and Health**

Any project schedule that does not include spare time is doomed to failure from the start.

One well known managing director of a multi-national company, for example, *always* allocates the time from 1.00 p.m. to 1.10 p.m. for lying on the floor, relaxing. Wherever he is and whatever else he is doing! His argument is: *'How can I do my job properly if I don't relax sometimes?'*

Clearly, adherence to any routine or plan requires an element of self control. It is an important skill of project leaders and without it, again, you are doomed to failure.

Equally important is your overall health and state of mind. No-one works well when they are unfit or under severe stress. So take steps to prevent it happening. Allocate time for exercise - some people have developed exercises that can be done while sitting down at a desk for example if you can't exercise outside or in a gym.

Stress is a major hazard at work. Controlled low levels of stress can be beneficial. But constant stress causes work deterioration and eventual collapse. So, again, take steps to prevent or limit it. Never be afraid of going to your manager or client and admitting you can't do everything. One of the effects of stress, for example, is that it becomes increasingly difficult to make rational decisions, so get them to help identify what can be slipped or left undone. It is in their interest as much as yours. Nobody benefits from you just carrying on struggling.

One scenario of stress is called 'catastrophising'. It goes along the following lines:

'The alarm doesn't go off. You are late for work. Now you are stuck in traffic. You will be late for an important meeting. The client will be angry. S/he will complain. You will lose your job. Your house will go etc., etc.'

The recommended way of handling such situations is firstly to recognise that even if you do nothing and a complaint is made, you can handle it. Then, if possible, take a rectifying action, such as turning off the road, finding a phone box and leaving a message saying you have been detained and will be late.



## 8 - Risk Analysis

Once a project plan has been constructed in outline, now is the time to perform a risk (or potential problem) analysis on it. This, as the name implies, is the process of identifying things that could go wrong on the project and taking appropriate action.

In general, you:

- Identify things that could go wrong (effects)
- Their causes
- Preventative actions that stop the causes occurring
- Triggers (that tell you a cause has occurred or is inevitable).
- Contingency actions (that limit the effect if a cause occurs)

As a rule of thumb, remember that preventing a problem occurring is usually less expensive than fixing it when it does. This is for two reasons. Firstly, contingency resource usually has to be reserved in advance (otherwise it won't be available when you most need it) and therefore often paid for (whether you use it or not). Secondly, people know they can charge you more for emergency resource!

Also that the more sensitive the trigger, the more it costs.

### Methodology

Although the methodology of full risk analysis is outside the scope of this course, the following overall approach remains valid:

**Step 1.** For each constraint in the project objective, identify how it could deviate (the effect). Grade as low, medium or high impact.

**Step 2.** Exhaustively identify possible causes of that effect. Grade each on a scale of 1-9 probability.

**Step 3.** For each cause within your influence, identify preventative action/s for any cause > 3. If the cause is not within your influence, set up a warning mechanism

**Step 4.** If necessary, and within your influence, identify contingency action for any cause having medium or high impact, remembering that resources will need reserving. The most expensive contingency action is that which brings the project back on time, less expensive is to limit the delay to its current state.

**Step 5.** Set up a trigger indicating if the cause occurs and nominate people to be informed



Once you have completed the analysis, you should then include preventative actions and triggers in your overall project plan, while ensuring it contains float to accommodate contingency activities.

One of the main reasons the Channel Tunnel cost twice as much to build as forecast was because of faulty risk analysis on construction costs and lack of agreed float. [*Tip: When performing risk analysis, look particularly for reliance upon factors outside your control such as the client's building being ready on time to accept delivery of your furniture, the purchase of materials made by someone else etc.*]



## 9 - Control and Reporting

Every project will require some method of monitoring and control. Dimensionally, this applies from above (via your manager), from below (the resources under your control) and frequently from the side (via the client or user). Essentially it is the main way of checking and ensuring the project is on time and to requirement.

### Monitoring

This is the term normally used that refers to how a downwards check is carried out on work in progress. So you monitor how well a work package is progressing.

Remember that it is impossible to monitor an action. You can only measure its current achievement against a target.

There are several different methods of monitoring:

- Regular
- On request
- Prior to key milestones
- Constant
- Random

### Comparing actual against predicted progress

As already stated, progress can only be measured against a pre-determined standard.

The implication of this is that thought and care must be observed in how milestones are set and measured. The key rule is that a measurement should be something physical, concrete, visible and incontestable. An easy end milestone is a signature on a document. It's either there or it isn't.

Also, the more milestones or monitor points you establish, the easier it is to detect variance, either positive or negative. Obviously too many monitoring points builds in an unnecessary level of bureaucracy, but this needs to be weighed against the benefits.

The same applies to trigger mechanisms when performing a risk analysis. In fact risk analysis and establishing monitors go hand in hand. You would probably set up a monitor/trigger at any time you thought there may be a problem.

The test to apply is: "Will this monitoring method/trigger detect success and/or variance and inform me in time to do something about it?"



Reporting upwards and sideways have exactly the same principles only this time ensure you build in a method of raising the alarm if necessary (and occasionally hiding savings to use later!). [*Tip: As early as possible, sell your manager etc. on the benefits of the minimum of writing required for period reports!*]

## Delegation

Delegation differs from work allocation in that it involves passing onto someone else work you would normally do yourself. This may be because you have insufficient time or you want to develop someone else's capability as a cover for the future.

Bear in mind that any delegated task involves:

- Training the person involved
- Detailing how much of the task they should do (the extent)
- Identifying how much support they may need while performing the task

Each of these aspects will mean taking some of your time, which must be scheduled into your project plan.

Delegation, of course, is not always downwards. You can delegate to your manager, a colleague or even the client, although the same considerations about monitoring, training, extent and support still apply. However, the hardest part of upward and sideways delegation is ensuring the job gets done. Unless you have their absolute commitment with some benefit for the individual concerned as well as getting them to timetable it in their schedule, this form of delegation is notoriously prone to slippage.

## Managing slippage

Possibly the hardest, although arguably most exciting, part of project leadership is handling things that go wrong causing slippage.

This topic is explored in more depth in the session on handling crises, however the general approach is:

- Establish the cause and effect of the problem
- Limit the effect
- Address the cause
- Re-schedule normal work



## 10 - Documentation

Possibly the least exciting aspect of Project Control is documentation. But setting up a project library, no matter how small, is vital. It defines what you are doing and why, as well as holding all contractual information etc. It will probably be a Quality requirement anyway and auditors always ask to see it.

No project is too small for a library. If the auditors happen to pick your project, small is no excuse and you could lose your organisation's accreditation by missing it out.

### The project library

The project library should contain, as a minimum:

- Contract or Formal agreement
- Functional Requirements Specification
- Systems Requirements Specification
- System Design Specification
- Baseline statements
- Changes
- Correspondence/memos
- Minutes of meetings
- Plans
- Technical documents/specifications
- Records
- Policies
- Procedures
- Standards
- Quality plans

It should be held in an easily accessible, probably hard copy, secure location with back-up copies stored elsewhere and someone else should always know where it is in case of your absence.

*[Tip: Even though computers have speeded up the process (sometimes) of accessing information, ensure you have sufficient back-up copies of all files, updated regularly and held on a separate secure file.]*



## 11 - Meetings

Meetings can be very effective ways of making decisions, sorting out problems etc. They can also be enormously time consuming - a one hour meeting of four people uses at least half a man day of resource. Project meetings, in particular, need to be run well because of the impact they have on time-scales and milestones.

### Considerations

When you are organising a meeting of almost any type there are a number of things that would normally be considered:

- Is the meeting necessary?
  - What would be the effect of not having a meeting?
  - Do you have the meeting just because you always have had?
- What outcomes are required?
  - Exactly what do you want to happen at the meeting?
- Who should be there?
  - What is the likely total man-effort involved?
  - Is it worth it?
  - Who must be there?
  - Who should be there who could miss it and send a deputy?
- What information should you distribute in advance?
  - How should it be organised?
  - Who needs it?
  - What incentive will ensure they read and consider it?
- What information will you need?
  - Why do you need it?
  - What is the easiest way of obtaining it?
- What handouts may I need in the meeting?
  - What is the most readable format?
  - When should I distribute them?
- What kind of meeting is it? (Process)
  - Problem solving, decision making etc
- What style of leading the meeting would be best?
  - Authoritative
  - Consultative
  - Participative



- What will you need to say?  
Prepare it  
Write down at least the key words
- What will the agenda be? (Content)  
An agenda is not just a list of key-words  
It should outline the scope and depth of discussion  
Together with any decision that needs to be taken  
Distribute it in advance
- Who should chair the meeting?  
Does the chair/secretary have a vested interest?  
Does the chair/secretary own the problem?  
In either case maybe someone else should be chair/secretary
- Is the meeting really an excuse for a team 'get together' morale booster?  
Why is that necessary?  
How will the success of the meeting be measured?  
What if someone can't attend?  
Not everyone likes morale boosters

## Meeting formats

Each type of meeting will probably have a different format, each requiring a different approach.

### Review Meetings

- Why do you need a meeting in order to re-view something?
- What should participants know afterwards that they didn't know before?
- How relevant will the information be to the participants?
- Does everyone need to be there all the time?
- How long will the meeting take?
- Method of dissemination (handouts?)



## Planning Meetings

Projects are more likely to succeed if people commit to plans, so involve them in the planning process

- Purpose - what are we trying to achieve in the long term?
- Objective - what is the objective for this phase?
- Indicator of success - how will we know when we have achieved it?
- How long is the planning meeting likely to take? Plan it!
- Familiarise all participants with the task objective and relevant information beforehand
- Identify intermediate milestones (with indicators of success) and dependencies
- Work packages
  - Identify them
  - Estimate their size
    - don't guess
    - estimate effort not elapse time
- Are there any deadlines?
- Allocate resource based upon average man-days, then adjust for experience
- Does the plan need to be made visible? People are more motivated if they know how much progress is being made.

## Fact finding meetings

- Who should attend?
- Which information is relevant?
- How will it be recorded?
- What should outcome of meeting be?
- How will you minute the information (detailed minutes or just actions?)
- Any follow up?

## Decision making meetings

- What is the required decision?
- Why is it necessary?
- What proof do you have that a decision is necessary?
- How will the decision be made?
- To avoid bias determine the criteria to be used before looking at alternatives
- Identify alternatives
- What evidence do you have to suggest they are valid alternatives?
- Match alternatives against criteria
- Don't argue implementation details before deciding in principle



## Problem analysis meetings

A problem = gap between what you've got and what you want, so ensure they are both fully defined

- First identify what problem is and what caused it
- Ensure the problem is not a solution to a higher requirement that could be solved another way i.e. why do we want to do this?
- Problem scope (who, what, where, when)
- What is not a problem?
- What differentiates problem from non-problem? Look especially at changes
- Use Brainstorming
- Develop a strategy to test problem *cause*
- Then decide how to fix it
- Concentrate on how 'it' could be made to work - either the problem or maybe the requirement if the problem can't be solved
- Frequent breaks if no progress

*[Tip: In a meeting that contains several different types e.g. Review, problem analysis, decision making etc., ensure you keep each part separate and not allow them merge into one another.]*

## Minutes and Actions

Minutes detail who said what together with any decisions made, the extent being dictated by the type of meeting. In some cases full minutes will be required, but more normally only summaries of major decisions will be necessary.

To ensure their accuracy, minutes should be read out to participants as they are taken and circulated as soon as possible following the meeting.

The term 'action' is probably a misnomer since they are best scripted as objectives with indicators of success i.e. a summary of who is to achieve what, why and by when. "To enable a full sales costing to be performed, John to ensure Chairman receives 1997/8 sales figures, organised by department and salesman, by 1/4/98" is preferable to "John to prepare sales figures".

It should also be common practice that any action which might fail to be completed on time is notified in advance rather than waiting until completion date. A good chairman will not be afraid to check in advance of a completion date to identify if there are any problems.



## Verbal behaviour in meetings

Within meetings, people will exhibit different forms of verbal behaviour, of which the most frequent are:

- Seeking - asking for ideas
- Proposing - ideas as statements
- Suggesting - ideas as questions
- Building - listen, analyse, fault find, improve
- Disagreeing - [*Tip: give the reason first then "Because of...I disagree" (but beware of revenge loops where one person disagrees purely because someone disagreed with him/her first)*]
- Supporting - beware of favouritism
- Difficulty stating - can become habit forming and negative
- Clarification seeking - finding out more information. [*Tip: If you find yourself losing control of a meeting, a good way of regaining it is to ask "Why do you say that? Could you briefly expand". Following the explanation you can then take over again.*]
- Explaining - as briefly as possible, keep to the point

You may find that you habitually prefer a sub-set of these behaviours. If that is the case the meetings you attend could suffer. Practice suppressing common behaviours and stressing others you are less accustomed to using.

## For more effective meetings

The chairman should:

- State the rules and format of the meeting at the beginning
- Encourage discussion not argument
- Prevent interruptions
- Note when people are
  - not listening
  - bored
  - side-tracking
  - using pre-fixed ideas
  - unable to hear
- Manage time for each and all items
- Note the differences between:
  - "I disagree and I won't support...." / "I won't do and I will prevent...."
  - or
  - "I agree and I support...." / "I will do and I will ensure...."
- Keep process issues separate from people issues
- Prevent participants from 'shooting the messenger'
- Prevent personal attacks e.g. "What a stupid idea"



- Agree required outcomes for each item before starting it:
  - “Everyone will be clear about the way forward” (poor)
  - “Each participant, including chairman, will say whether they agree with the plan and summarise their actions on it” (better)
- Allow people to attend only relevant parts
- Agree with problem owners in advance what they want to achieve
- If the chairman so desires (for example if s/he has a vested interest), use facilitators to:
  - remove process activities from chairman
  - ensure everyone contributes
  - keep time
- Allocate agenda items to owners who take total responsibility
- Allocate time to each item in advance
- Use visible note taking methods e.g. flip charts
- Decide how decisions will be made before starting the discussion
- Decide ‘whether you all want to do something in principle’ before arguing ‘how to implement it’.



## 12 - Project Implementation

The implementation phase of a project is when the work is actually done, hopefully according to plan.

Unfortunately, problems sometimes occur, which, if not handled well, can cause significant delay and incur major cost overrun.

### Gaining support and co-operation

Possibly the most common problem encountered during implementation is that of people not doing what you would like them to do. Frequent causes of this are:

- They don't have the skill or knowledge to do the task
- They have other higher priorities
- They are lazy!
- Other factors are or could prevent them from doing the job
- They misunderstand the requirement because it was not communicated effectively

### Effective Communication

All communication is most effective if it is concise, understandable and interesting. But verbal communication, is usually hindered by speakers:

- Not saying what they meant to say
- Talking in long paragraphs not short sentences
- Making no extra effort to make what they say interesting (i.e. relevant or beneficial)

### "I didn't mean that"

If you talk ad hoc for one minute you will probably speak over a hundred words, and the likelihood of you *always* selecting the perfect word is remote. You can therefore assume that, every time you talk for one minute, something you say will be wrong! On top of which, even if you *did* speak perfectly, it is unlikely that the listener's definition of every word is the same as yours. So there is even less probability of communicating perfectly!

The only way to improve our chances of being understood is assess the listeners' understanding and correct any errors. And, if the situation warrants it, you will need to think in advance how to do this. For example by asking questions to reveal perceptions, or asking the listener to repeat back what s/he understood and is going to do by when. Remember, if you don't check understanding you can guarantee listeners will misunderstand some of what you said.



## Talking in sentences

Because the longest someone can listen before becoming mentally side-tracked is about 30 seconds, the best points of view are expressed briefly. After that the listener will want to think about what you have said, interrupt or consider something else. In each case they won't be listening to what you are saying.

So, if expressing yourself clearly is an important aspect of your job, listen to what you sound like by using a cassette recorder and playing it back. Don't listen to your vocal tone - it is never how you think you sound - listen instead for pauses and clarity. Practice pausing for at least a second after every spoken sentence. Or at least once every 30 seconds.

Then, if you know you have a meeting where your performance matters, plan out in advance what to say and how you will say it without waffling.

## Persuasion & Influence

A large element of communication is around the area of persuasion. People are more likely to be persuaded by you if you have influence or power of some kind over them. Power Bases exist in numerous forms, of which the most frequently used are:

- Hierarchic - The power you have by virtue of your position  
- *"You do what I want because I am the boss/stronger/older"*
- Reward - The power you have by offering a reward or punishment  
- *"You do what I want and you get paid"*
- Expert - The power you have because of your knowledge  
- *"You do what I want because I know best"*
- Loyalty - The power you have because of a relationship  
- *"You do what I want to please me"*

## Creating Interest

To be even more effective, if you want people to listen to what you are saying, you need to give them a reason for listening. Especially if you want them to do something as a result.

The best, and possibly only, way of persuading others is to use **benefits** - a benefit being something that somebody wants (i.e. an aspect of reward power base). But, if people do use a benefit, they usually place it at the *end* of the sentence, after the proposed action - *"I would like you to do....so that you can...."*. The problem here is that if the listener initially dislikes the sound of the action, s/he will switch off before hearing the benefit, or at best be negative.



So, if you want the listener to be more positive, put the benefit **up front** - "*So that you can...could you..*" or "*If you want.....then....*".

Benefits appear in different forms - people being motivated by different things - but the most common forms of benefits are:

- Those that help the organisation (corporate) - better for new employees or senior personnel

*"So that the project can...could you"*

- Those that help the individual (personal) - better when you know someone well

*"So that you can.....could you"*

- Those that help the team - better when someone has been in a team for a while

*"So that we can.....could you"*

- Those that help the leader - better when you have gained some loyalty

*"So that I can.....could you"*

In particular, three things that appeal to most senior managers are:

- Productivity
- Image
- No surprises!

However, leave nothing to chance. **Always** follow up with "Because of....can I rely on that being done by.....?"

## Constructing arguments

Whenever you are constructing any proposal or argument, do so in stages, using PCAB:

- **Problem** - what is the area of difficulty
- **Cost** - what does it cost in terms of money/time/man-effort etc
- **Alternative** - a proposed solution
- **Benefit** - what is the *additional* benefit of adopting the solution



## Coping with objections

PCAB won't, of course, guarantee success. Some 'persuaders' are afraid of objections because they see them indicating rejection or failure. A situation then leading them to construct more and more complicated arguments (to cover every eventuality) or become increasingly bullyish in their approach. There is an alternative, used by professional negotiators, which removes some of this fear:

- a) Encourage objections - [*Tip: No objections is a danger signal probably meaning the other person hasn't thought through the implications*]
- b) Get **all** objections identified before addressing **any** of them
- c) Phrase them neutrally ('cost' becomes '*financing*', '*inefficiency*' becomes '*efficiency improvement*' etc)
- d) Gain commitment ("*If I could sort out.... would you....*")
- e) Resolve the objections later

## Gaining time

A classic cause of stress in project leaders is always being short of time. Here are some observations and suggestions:

- Our main method of transferring information is speaking. The average manager spends up to 75% of the day (6 hours) doing it, yet few people have ever had any training since they were children in how to talk! So, if you want to gain an hour a day, talk more effectively. Keep answers/comments short and to the point. Once the listener has demonstrated understanding, don't continue pushing the point.
- Interruptions, especially to 'have a chat', can take up vast amounts of time as well as making it difficult to find the thread of work again. Keep social chat to breaks and develop a reputation for 'No chat during work time'. You can even put up a sign saying 'Busy, urgent interruptions only'.
- Keep meetings short and to the point. Say in advance how much time you have available and stick to it, giving a warning, if necessary, that you will have to leave in X minutes.
- Keep people aware of short term time-scales and milestones. That way they will help you reduce wasted time.
- Ensure other people let you know of any time they have saved or where savings could be made.
- Remember the old construction adage - 'Measure twice, cut once!'
- Keep a running list of short time-scale non-urgent actions. Every time you have a few minutes to spare, go to that list and get something out of the way.
- Monitor for activities which could be deferred to a later, less pressurised occasion.



## Handling crises

A crisis could be defined as a major deviation from the plan, and one which, if not addressed will cause serious client/user dissatisfaction. It is probably fair to say that more project leaders have made their reputation for handling crises than any other aspect - an arguably sad reflection on getting plans right in the first place!

### When crisis occurs

Before going any further, establish what caused the problem and the extent of the effect, both short and long term.

Don't just dive trying to test for the cause of a problem. Give it some thought first and establish a strategy. For example decide whether you test for the:

- Most likely cause
- The one that is cheapest to test for
- "       quickest to test for
- "       has the least effect on other systems
- "       involves the least effort  
      etc

Identify and agree a short term plan to limit the extent of the effect (damage limitation). An example of this is the Dutch boy who put his thumb in the hole in the dyke.

Agree a plan to stop or limit the cause recurring. If the cause is within your terms of reference, agree a plan for its permanent correction.

Re-schedule normal work looking for future time savings

When addressing the cause and effect issues, specify roles & terms of reference for your resources:

- Purpose and immediate task objective
- Time-scales
- Levels of authority
- Responsibility
- Relevance and importance of their task
- Desired outputs and standards
- Monitoring method

Get these agreed, then ensure people stick to them.



## Behaviour during crisis

The project/crisis leader should:

- Develop the strategy and co-ordinate workers
- Monitor progress but not hassle
- Organise any outside help
- Not get involved in tasks
- Always ensure people know his/her location
- Maintain a log
- Keep workers happy (supply them with coffee etc.)
- Remove administration tasks and any other barriers that impede worker progress
- Communicate on 'Need to know' basis
- Celebrate afterwards

And remember that you reap what you sow! People will be more inclined to put in extra effort during a crisis if you have treated them fairly and not over-pressurised them previously.



## 13 - Project Completion

This is probably the most crucial and visible part of a project and the one on which your success is ultimately assessed.

### Demonstrating acceptance criteria

This normally takes place over two phases - a dummy run and the real thing.

Acceptance criteria should have been defined at the commencement of the project and all your design, planning and implementation is geared towards these phases.

*[Tip: Never, ever get the client or user involved in acceptance/hand-over unless you have tested it out first.]*

When involving the client (who will often want a demonstration before showing it to the end user) let them know in advance what they will see, how long it will take and anything they should specially lookout for.

First remind them of the requirement and strategy used before staging the demonstration. Then give them time to look and consider. Never rush observers or decision makers at this stage.

At the end of the demonstration check it has gone according to requirement. This is frequently a difficult time and the point at which the acceptor almost invariably asks a standard question: "Couldn't you also get it to do.....?" Something that was never asked for in the first place. Danger! If you go along with this it will probably be something difficult and costly to include. So never commit yourself. Refer the person back to the original statement of requirement and get agreement that has been met. Any new requirements can be considered after that.

### Sign-off

This is point at which the project can be considered complete as far as the client is concerned. It normally comes some time after acceptance testing because user training and documentation often has to be produced.

But there must always be some method of sign-off to allow for invoicing (and inclusion in your later appraisal!)



## End of project actions

This is often the most difficult phase of a project. By this time normal work starts taking preference, the professional project leader starts looking for other projects, which makes for distraction. Sign-off has been achieved but some work is still necessary.

- Project documentation will need to be completed for auditing and Quality reasons - one of the less exciting project activities.
- Human resources you have used may need appraising - formally or informally.
- A project review should take place, so that lessons learned can be reviewed and any useful data or experiences documented and used elsewhere. What went wrong? What went well? What have we learned about estimating and planning? What more do we know about the user, client, external suppliers? Etc.
- The client may well wish to have a business review some time after the project to determine whether the business objectives were achieved. The project manager may be invited to this although there is a danger in this case that s/he may become defensive rather than concentrating on the current business.
- The user and/or client may need re-visiting to check on satisfaction. Moreover you may be required to sell or promote future business. For example, on a major, £500 million computer project the project director's terms of reference included the rider *"The project as a whole will be deemed a failure if a further £300 million of business is not forthcoming"*.

And last, but not least, your success needs recognition. Partly to ensure it goes on your personnel record, but also that others recognise it, giving them confidence in you for the future.



# Appendix 1: Project Budgeting & Costing

## Purpose of budgets

Why do we bother having individual budgets for projects when we rarely have them as workers doing ordinary work?

In fact we usually do have them, but they are termed 'This is how long the job should take' and it is the manager's job to cost that and monitor how much is spent in the process.

As project managers, because we have total responsibility for a task, i.e. its boundary is set, it makes sense to allocate a budget or an amount of money which can be used.

There are several advantages to this:

- It introduces a sense of commercial reality to projects
- It allows senior managers to monitor spend against organisational milestones
- It provides a focus for the project manager and his/her team
- It forces the project manager to be realistic about what can and cannot be achieved
- It limits wasted time and effort
- It allows for the organisation to make best use of its financial resources
- etc
- And it allows the project manager to demonstrate his/her financial control skills!

## Fixed & Variable Costs

A fixed cost is usually defined as one that remains unchanged during the organisation's year e.g. Office space regardless of whether one or two people occupy it, the office computer, payment for testing equipment etc.

A variable cost is one which is affected by the size of the project e.g. raw materials, labour, overtime, travel etc.

## Capital & Operating Expenditure

Capital expenditure is that spent on items which are kept within the organisation and have value that can (theoretically) be recovered, so items such as stock, plant, vehicles, computers etc.

Operating expenditure is money that cannot be recovered, so rent, heating, salaries etc.

Overall limits are usually set on these costs at the beginning of a financial year and their totals are rarely easy to change. They are then allocated to the various departments within the organisation with certain discretionary limits on how they can be used.



# Principles of top down & bottom up costing

## Top Down Costing

Top down costing means being given a budget to work within then doing whatever you can within that amount.

### Advantages:

Allows a profit margin to be defined  
Puts constraints on on-going costs  
Easier to schedule work

### Disadvantages:

Limits the quality of final product  
Can increase stress levels on production team  
Tends to produce a feeling of "All that matters is profit" (is this a disadvantage?)

### Tactics:

- Try to avoid being constrained
- Identify lee-way say "Could we go 5% over?"
- Can you sell the concept/benefits of better product versus higher cost
- Identify & rank costs, lesser ones may have to be removed or covered elsewhere (is there an alternative source of funding?)
- How much can be written off?
- Does not making a profit matter?
- Can results be sold off to someone else for recovery later
- Which costs can be reduced (e.g. could you remove overtime and pay a bonus? How does the cost of evening equipment hire compare with overtime costs? Could you use results from elsewhere? Could you use less expensive resource - staff, equipment, materials? How does re-scheduling affect costs?)
- Don't plan to use up all of budget, save some for the unexpected
- Beware of giving initial estimates that are then quoted back as fixed price
- What can you produce for the price? How could it be made to look better?
- What is the easiest way of producing the product, as opposed to the best?
- Be willing to say "No, it's not worth our effort"!
- Can any payments be delayed?
- What deals could be made on the purchase of materials?



## Bottom Up Costing

Bottom up costing means having an objective that you cost and then quote.

### Advantages:

Tends to produce better quality output  
Less stress  
All costs can be absorbed by the project

### Disadvantages:

Quoted price can be un-competitive  
Can introduce lazy or over-estimating

### Tactics:

- Over-estimate & allow it to be reduced
- Fight over non-essential costs then give way but refuse to give way on the ones you really want
- Brain-storm to ensure you have included everything
- Perform a 'what could go wrong?' analysis
- Don't try to 'even out' your resource usage
- Don't quote a figure you don't believe in
- Remember to include costs of setting the budget and monitoring its spend
- Which costs are fixed and which are variable? What do they depend upon? Can they be changed?
- Involve team members in cost estimating - it motivates and improves chances of getting the figures right
- Do realistic costs initially, don't include contingency time, it gets eaten up
- Remember to include bonuses etc
- What conditions have changed since the job was done last time?
- What leads you to believe that if it went wrong last time it won't this time? Ditto if it went right
- Don't forget to include travel time & costs, similarly meetings etc
- Check on costings incurred on other projects to make sure you haven't forgotten anything
- What costs might rise during the project?
- Don't forget to allow for staff holidays, sickness etc
- Are there any restrictions on spend within a particular time frame - month, year end etc



## Planning expenditure

Preparing detailed estimates is part of the general planning process, already covered, but it means that realistic costs must be included and scheduled. So, for example, it may seem from an initial plan that it is logical to do task A then B & C in parallel, but how does that affect budgetary spend? Is it acceptable within a budgetary period?

It is also important to differentiate between an estimate (stated guess) and a quotation (which you will be expected to adhere to, although remember that all contracts can be re-negotiated).

Spread sheets can be very useful here for doing “What-if” calculations or project application software (e.g. Microsoft Project) to identify cost variances.

The important principle is “Can you visualise the work being done in the way you want it, at the time you want it or is it just hopeful?”

## Monitoring budgetary spend

Once costs have been identified and agreed, they will be entered into the project manager’s budget. This should show how spend is allocated and when and it should be sufficiently clear so that mistakes cannot be caused. The budget monitoring system should also be capable of breaking down costs incurred by type and date.

Be clear though about how the system works. For example, are you charged on the day you spend something or by when it is entered into the accounting system? Clearly the two may not be the same and provide considerable scope for creativity! And is the budget fixed or can it be amended in changed circumstances?

Another issue is: can you use saved money from one activity within the project to fund another? Sometimes the answer will be “Yes”. For example, it is reasonable that if someone takes less time on a task, more time can be allowed for a later one. On the other hand, you may not be allowed to transfer savings on capital purchases to another item. And usually you cannot transfer between capital and operating expenditure; this is because capital and operating budgets are set at the beginning of a financial year and show up on company reports.

Also be clear from the outset how you are going to be judged on your budgetary control:

- What will happen if you overspend in one period but make it up in the next?
- How will you and the project be judged in overall terms?
- Will you be judged a complete failure for a 1% overspend provided you gave warning?  
What are the implications of underspend - are you judged a success or poor at estimating?



Finally, the financial control of a project is rarely its most exciting attribute. However, in a commercial organisation, it is a necessary one and not to be skimmed or glossed over. Get used to doing the initial estimates and make monitoring spend, as well as controlling it, part of your on-going administration. Be clear from the outset of the project how you will be accounted. In other words, what level of spend are you expected to know off the top of your head and within what period. So is it 'to the nearest £100 every week' or 'to the penny every day'.

- What financial reports will you be expected to produce and have you identified the time cost to do so?
- Is that part of your project plan?
- Because your manager's success may well be rated by his/her knowledge of what is happening, timely and sensibly structured reports will be a necessity. Similarly you will be expected to forecast spend over the coming period/s.
- What extra information are you likely to need to allow this to happen?
- What factors will affect it?

## Recoveries

In some situations part or all of a project may be funded by means of part payment, up front or otherwise, internally or externally. Since this obviously affects project success and budgetary spend:

- To what extent do intermediate payments fund future work?
- Is it your problem?
- Should it be?
- How do payments and spend link up within the accounting system?
- How, when and to who will you demonstrate that work has been completed to warrant payment?
- What happens if those recoveries do not materialise on time?
- Could it be temporarily financed elsewhere?



## Appendix 2: Contracts

### Definition of a contract

Being “A legally binding agreement between two or more parties”, contracts are mostly oral in everyday life. For example, buying a newspaper from a street vendor consists of offer and acceptance.

Contract formation requires that a number of things are present:

- Intention to enter legal relations
- Consideration
- Consensus ad idem (i.e. a meeting of minds)
- No duress or authority
- An objective that is legal

Or put more simply - freely entered into by both parties.

They do not have to be in writing, nor are they dusty legal documents or needless pieces of bureaucracy. In most businesses involving regular or high-value supply, written agreements are necessary which define the responsibilities of both parties. This is because they are often at the leading edge of change or development and there are always, to a greater or lesser extent, changes to the original document or contract.

A contract, therefore, is a living, working document, the only expression of a supplier’s relationship with the client and so is a principle expression of client’s and project manager’s legal responsibilities.

They often involve delivery of unproven products or deliveries, interaction between many parties and the deliverable is often difficult to define. Moreover no two contracts are ever the same.

For these reasons, a contract is essential to the project manager. It is the first and basic tool enabling the project manager to establish plans and utilise resource. I.e. it is the project manager’s baseline. So a typical obligation for a project manager might be to deliver a contracted system, by a certain time, under certain conditions for a certain cost.

What is in a contract - the subject matter - needs more detailed treatment which is covered later. However, the important points are:

- Contracts are a major weapon in reducing risks. They can be made on unfavourable or favourable terms.
- They have clearly defined responsibility.



- If the contract is not clear, a risk of misrepresentation occurs which may result in:
  - a) a dispute
  - b) project manager's view of what is needed not meeting the client's expectations.

Therefore work load increases, costs over-run and dissatisfaction results. This is why the value and importance of a good contract cannot be overestimated.

Suppliers rarely sue clients over a breach except in cases of gross negligence. It is not in their business interests. Clients, however, may well sue a supplier if they feel they have a chance of winning.

Conflicting beliefs such as these usually occur when a contract gives false expectations or is silent on certain matters. Therefore a contract must be clear and concise to avoid customer dissatisfaction. They can be changed by agreement only, are legally enforceable and are another thing for project manager to manage.

## Types of Contract

There are many different types of contractual arrangement in business. In 'high-tech' there tend to be 5 main types:

- Collaborations
- Consortia
- Sole contracts (often for 'project' solutions)
- Prime contracts
- Subcontracts

### Collaborations

Joint responsibility, usually on large developments. They are often high level agreements supported by other, more specific, contracts.

### Consortia

A consortium may be a contract of understanding and responsibility between two partners - who in some cases may also be parties to other contracts.

### Sole contracts

The supplier alone is contracting with the client

### Prime contracts

The supplier uses several subcontractors to carry out component parts of the contract.



## Sub-contract

Where the supplier supplies only part of the solution to a main contractor who deals exclusively with the client.

Whatever contractual arrangement is used, the commercial arrangement is usually either fixed price, or time and materials. There is another type, fairly rare, which is termed cost-plus, i.e. the client pays for a declared cost price plus a percentage.

The differences and their effects on the work and project manager's job are:

Fixed price contracts inevitably mean higher risk and put greater pressure on the supplier's ability to plan, estimate and control projects. It is only the ability of the supplier (i.e. often the project manager) that makes the difference between profit and loss on projects. If the supplier commits himself to producing a fixed price solution and makes mistakes in the estimates or runs the project badly, he must pay.

The objective therefore of managing a contract is to achieve a win/win situation.

### Why a win/win situation?

Because losers fight. This costs, either time or money, wastes resources and loses business.

So manage the contract and the expectations.

## When contracts go wrong

There are only 4 basic reasons why contracts go wrong:

1. Unsuitable/incapable partners.
2. Unrealistic/unachievable obligations.
3. Ignorance of contractual obligations.
4. Loss of enthusiasm or direction during execution.

But beware of the following words, they do not mean anything:

Goodwill  
Enthusiasm  
Reasonableness

But:

"Every endeavour" means all company resources!!



This is why “Never mind the contract let’s get on with it” and no-one held responsible when the outcome is wrong are hallmarks of a bad contract.

What should we see?

- Specific identification of all party’s obligations.
- All obligations underwrite
- Identification and allocation of dependencies.
- All risks appraised and underwritten.

In terms of who what and when.

## Understand the risks

Contingency in the Profit & Loss

Extend the time-scale

Take out insurance

Devise specific fall-back clauses.

If you do this, you are half way to a good contract.

So, ensure you have good plans, good people, identify your priorities, review progress regularly and check the delivery dates from sub-contractors or your own production team regularly.

That is the practical view.

**A brief overview of some legal aspects of contracts follows** (*note. Check with your legal department because contract law varies in different countries*)

## What then is a contract?

Technically, it is:

- An agreement between two or more parties
- Who have an intention to be legally bound
- To exchange valuable consideration.

As “an agreement between two or more parties who have an intention to be legally bound”:

- a) it must be a real agreement, not agreement based on mistaken belief;
- b) the parties must be ‘legal entities’ i.e. capable in the eyes of the law to make contracts (generally this means the entities must be adult persons or registered companies).



If a contract is to result from an agreement between two parties, the parties must have an intention to create a legally binding agreement. Consequently a frivolous agreement between two parties would not constitute a contract (e.g. An agreement that I would buy you a beer were you to come into the pub would not constitute a contract).

“To exchange valuable consideration”

Effectively this means that an agreement to donate or do something for no return or payment does not constitute a contract. However the “exchange of valuable consideration” is interpreted widely - it could consist of services, goods, money, agreement not to do something, etc.

Having said that, the word “valuable” implies that the parties equate in value in the eyes of the parties. You would have difficulty convincing a court that an agreement to sell a Rolls Royce for 1p. was a contract because there was no valuable consideration. But, on the other hand, an agreement to sell a glass of water for £10.00 to a man dying of thirst may well satisfy the valuable consideration requirement.

Those are the only three elements of a contract.

Note that there is no requirement that the contract be in writing, therefore oral agreements containing the 3 elements are contracts. However, always remember Sam Goldwyn's phrase “a verbal contract isn't worth the paper it's written on”. So the only reason for having a written contract is its evidential value. Whilst evidential value has little relevance to low value, instant delivery type transactions (e.g. buying a newspaper) evidential value is extremely relevant to high-value, long-term arrangements: memories are short, and where there is commercial advantage to be gained from a short memory, you can be sure that memories will be almost non-existent!

When we talk of evidential value, we do not only mean value as evidence in court. More importantly, it also means its value as evidence for the parties themselves to consult what was agreed. In other words, the evidential value of a written contract is that the parties can consult the contract to ascertain what more needs to be done, or, if there were to be disagreement between the parties as to who was responsible for a certain obligation, the contract could be consulted as evidence of what was agreed.

Having said that, the evidential value of a contract directly depends upon its precision, lack of ambiguity and completeness. An incomplete and/or ambiguous contract has little, if any, value as a reference document. Therefore the contract must be absolutely clear and cover all issues and potential issues.



As a general rule, if the contract contains a clear statement of the when, what, where and how of:

- the valuable considerations due to the buyer
- the valuable considerations due to the supplier
- the exchanges of 1 and 2

it will have considerable worth as a document.

Where, however, the contract leaves some of these issues open to assumption, or worse still is ambiguous about some of these matters, the evidential value is largely diminished. Furthermore, a contract which did not cover these issues would be in grave danger of being declared “void for uncertainty” by a court of law.

Many heads of agreement or letters of intent are examples of agreement which do not actually cover what, when, where and how issues, and are therefore of little value as reference documents and, if relied upon as contracts, would be in danger of being declared as void for uncertainty.

## **Heads of agreement and letters of intent**

The purpose of these is the intention to commitment before contract. Basically intent to trade. They are generally vague because the reason for their existence is that details such as place, price and time are not yet known.

Letters of intent are best regarded as a statement of mind at the time, which may justifiably and easily change. In addition, they may cause the supplier to put in effort or money which increases his need and decreases the client’s need for a formal contract.

Therefore avoid them where you can and certainly don’t put too much reliance on them.

## **How is a contract formed?**

As with most things, forming a bad contract is not difficult - in fact it is very easy. But forming a good contract is a different matter with many potential pitfalls.

How then, technically speaking, is a contract formed?

A contract is formed by an offer and an acceptance. The offer must be specific - e.g. to buy or sell certain goods or services for a specific price. And it must be unequivocal if a contract is to arise - i.e. the offer to buy or sell specific goods or services is accepted at the price quoted.

If the acceptance is less than unequivocal, for example there is tentative acceptance to buy/sell the specific goods or services, but a lower price is suggested, the acceptance is in legal eyes a counter offer and requires a further unequivocal acceptance before it results in a contract.



## Consequences of a contract

Inevitably the systems integration/total solution business requires that a formal proposal be submitted (either because an ITT [Invitation To Tender] or RFP [Request For Proposal] has been issued, or because the value and complexity of the system dictates that a proposal be provided).

In submitting a proposal, the supplier is making an offer. If that offer were accepted unequivocally, a contract would be deemed to arise automatically. And, at a later date, the contents of the ITT/RFP (if any) as read with the proposal would form the contract.

So beware! A proposal could be legally binding. It requires careful consideration, therefore, during preparation and before submission. In particular if there are any aspects in the ITT/RFP whether technical/commercial/contractual which the supplier cannot accept or is unwilling to accept, this should be stated in the proposal - otherwise it could be deemed to have accepted those matters by default.

## Penalties

Surprisingly to many people, penalties, per se, are not allowable in a contract. It is, though, allowable to include reference to liquidated damages, i.e. damages payable even though the contract continues (e.g. for late delivery). These must be reasonable and subject solely to losses. If there are no liquidated damage clauses, then a supplier/client can still be sued for consequential damages, again usually limited to costs incurred. So, for example, it could be argued that if a client were unable to take delivery at an agreed time, the supplier could charge for reasonable storage costs.

Another area to be wary of is oral contracts.

If you make an oral offer and the client writes back and accepts it - you have a contract. Therefore you will need to endorse relevant correspondence "subject to contract".

## Misrepresentation

Yet another area fraught with potential problems is misrepresentation. There are three kinds:

- Innocent
- Negligent
- Fraudulent

**Innocent misrepresentation** - the vendor believes their responses are true. When discovered the client can revoke the contract. You may be entitled to payment for work already carried out.



**Negligent misrepresentation** - "sins of deliberate omission". The client may revoke the contract or claim damages or both.

**Fraudulent misrepresentation** - "My PC will communicate with any network without special software", the client may revoke the contract and claim even greater damages.

Consumer contracts have a cooling off period (7/14 days). In commercial contracts - caveat emptor - (let the buyer beware) applies. No cooling off period.

## Contract amendments

Essentially, an amendment to a contract is a new contract. All the principles of a contract, therefore, apply to the formation of an amendment. So, provided amendments meet the three basic requirements (agreement, intention to be legally bound, and exchange of valuable consideration), they are perfectly valid. On large projects contracts are amended on a regular and frequent basis.

There is no rule that a written contract can only be amended by a written amendment - in fact the converse is true: there is no reason why a written contract cannot be amended by an oral agreement to amend. However, if a written contract is orally amended, the evidential value disappears.

Therefore, it is normal practice to include in contracts a clause to the effect that "no amendment will be of any force and effect unless and until it is reduced to writing and agreed by both parties".

## Summary

- Contracts are formed by offer and unequivocal acceptance, providing the 3 basic requirements are met:-

- agreement
  - intention to be legally bound
  - valuable consideration.

- Oral contracts have the same contractual credence as written.
- To avoid unwanted pre-contractual obligations coming into existence we should:

- confirm all oral negotiations in writing,
  - endorse all negotiations related correspondence with "subject to contract"



- Also be careful, especially in oral situations, of moving a contract that is '*sale by description*' i.e. this equipment will perform like this (the norm in technical contracts) to '*fitness for purpose*' e.g. this equipment will ensure you can process three thousand share deals a day.
- There are 3 kinds of misrepresentation:  
innocent  
negligent  
fraudulent.
- Heads of agreement/letters of intent do not have a great deal of value and can be dangerous to the supplier if relied on. They reduce the will to sell, limit the ability to negotiate and are rarely enforceable.
- Amendments are new contracts.
- Don't allow the evidential value of a contract be eroded by an oral amendment.
- Ensure everyone relevant to the project knows what is in the contract. Ignorance of a contract is no excuse.
- Beware of 'back to back' contract situations. I.e Those where a prime supplier contracts to provide the services of a third party. Third parties are notorious for having too little collateral to get themselves out of a mess!
- Finally, it is sensible for the project manager to get involved as early as possible in the bidding process, you may be able to hire yourself out to project manage the bid for example. That way you can be sure of what you and/or the supplier are getting themselves into and input your feelings about overall practicality.



## Appendix 3: Project Control Documentation

These are probably the minimum control documents one would expect to see in a formal project environment. The main benefits from using such controls are:

- Everyone is following the same standard
- Projects are easier to monitor from a management viewpoint
- Everyone knows what they should be doing

Use/modify them as you see fit.



# Sample Project Definition

**Project name:**

**Project Initiator:**

**Date:**

**Client:**

**Project Manager:**

## **Project Description:**

*A short introduction to the project*

## **Project Background:**

*Why is the project being undertaken?*

*What is the current situation and what are the difficulties the situation imposes?*

*What problems are we trying to solve?*

*What opportunities are we trying to capture?*

## **Project Objectives:**

*Specifically, what are we trying to achieve?*

*S - Specific*

*M - Measurable*

*A Agreed*

*R- Realistic*

*T - Time bound*

## **Project Success Criteria:**

*Briefly, how will the objectives be evaluated?*

## **Project Approach**

*How is the work being organised?*

*Who is doing what?*

*What would be the key milestones?*

## **Communication Plan:**

*Who gets what information?*

*When and how will they get it?*

## **Financial Plan:**

*Any appropriate commentary and explanation of the project finances.*



# Sample Acceptance Control Sheet

<b>Project:</b>	<b>Date:</b>
<b>Project leader:</b>	<b>Department:</b>
<b>Deliverable:</b>	
<b>Acceptance criteria:</b> (The deliverable must conform to.....)	
<b>Acceptance requirements:</b> (Time, Location, Data, Resource, Materials, Expertise, etc)	
<b>Acceptance procedure:</b> (Method)	
<b>Who will be involved?</b> (Where & When)	



# Sample Requirements Control Sheet

**Project:**

**Date:**

**Project leader:**

**Department:**

**Functional Requirements Summary:**

**Constraints:**

Size  
Performance  
reliability  
Interfaces  
Image  
Time scales  
Cost  
Security  
Safety  
People  
Quality  
Equipment  
Geography  
Environment  
Support & Training  
Growth  
etc.

**Personal Requirements:**

**Comments:**

**Authorisation:**



# Sample Change Control Sheet

<b>Project:</b>	<b>Date:</b>
<b>Project leader:</b>	<b>Department:</b>
<b>Change Summary:</b>	
<b>Impact:</b>	
<b>Comments:</b>	
<b>Work to be Done:</b>	
<b>Cost:</b>	
<b>Time scale:</b>	
<b>Authorisation:</b>	
<b>Reference:</b>	



# Sample Terms of Reference

<b>Project:</b>	<b>Date:</b>
<b>Project leader:</b>	<b>Department:</b>
Job Title:	
Function & Responsibilities:	
Project Objective:	
Time scales:	
Authority level:	
Accountability:	
Staff Reporting:	
Reporting to:	
Reporting Procedures:	
Budget Responsibility & Constraints:	



# Sample Risk Analysis Control Sheet

<b>Project:</b>		<b>Date:</b>		
<b>Project leader:</b>		<b>Department:</b>		
<b>Constraint:</b>				
<b>Effect</b>	<b>Cause</b>	<b>Preventative Action</b>	<b>Contingency Action</b>	<b>Trigger</b>
<b>Warning mechanisms for causes outside project control:</b>				
<b>Warning mechanisms for effects extending beyond the project:</b>				





# Sample Project Completion Checklist

<b>Project:</b>	<b>Date:</b>
<b>Project leader:</b>	<b>Department:</b>
<b>Dry Run Acceptance Trial Sign Off</b>	
<b>Amendments to Initial Requirement</b>	
<b>Acceptance Trial Sign Off</b>	
<b>Amendments to Initial Requirement</b>	
<b>Delivery Sign Off</b> <i>Training plan</i> <i>Support Plan</i> <i>Implementation Requirements</i> <i>etc.</i>	
<b>Post Delivery Check</b> <i>2-3 weeks later</i> <i>2-3 months later</i>	
<b>Project Documentation Complete</b>	
<b>Follow Up Actions</b>	
<b>Appraisals</b> <i>Project manager</i> <i>Staff working on project</i>	
<b>Project Review</b> <i>What went well?</i> <i>What could be improved?</i>	
<b>Business Review</b> <i>Did the project fulfil its expectation?</i> <i>What lessons were learned?</i> <i>Actions arising</i>	

