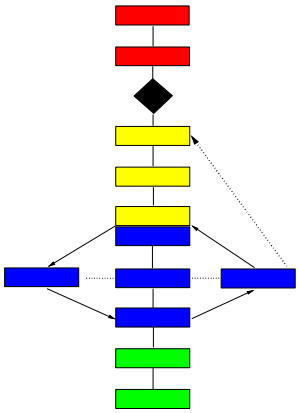
Project Definition Guide

MITP
v5.1



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PREFACE About This Document

This document describes how to define a project using MITP.

For information about the MITP life cycle, the key techniques, and the support techniques, see the MITP Handbook. A glossary of terms may be found at the back of the MITP Handbook

Who Should Read This Document

The 'you' in this document is the Project Manager, but other people can read it too and extract useful information from it.

How to Use This Document

Information will be built up during project definition. You will add this information to the Project Control Book (PCB). The PCB is the repository for the plans, controls, and procedures for a project. It consists of two parts:

1. The procedures section containing all procedures used on the project
2. The dynamic files containing the results of following these procedures, for example, the plans of the project, the changes, and issues.

The PCB forms the basis for ensuring that the project conforms to BS 5750, ISO9000, and MITP standards.

ISO9000 Control Information

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1 What is Project Definition?

After deciding to go ahead with the project, the first thing to do is define it. The purpose of project definition is to agree, document and gain commitment to the fundamental characteristics of the project. The aim is to produce a common understanding of what the project is. The Project Sponsor, Project Manager, and the key members of the management team responsible for delivering the project should be committed to it and approve it.

An essential requirement for the success of all projects is that they be well defined. A badly defined project cannot be managed and an unmanaged activity usually fails. This document considers some of the factors necessary to the satisfactory definition of a business project that may have an information systems element.

It is vital to the success of a project that everyone associated with it has a clear view on:

- Goals and objectives
- Scope
- External involvement
- Deliverables
- Acceptance criteria
- Quality requirements
- Dependencies and interfaces
- Work to be performed and how it is structured and phased, including the definition of subprojects
- Organization, roles and responsibilities
- Overall project schedule (milestones, phases and estimated dates)
- Overall project costs and resources
- Project management system
- Review schedule
- Assumptions
- Standards, processes, and procedures to be used.

Project definition is performed at the start of a project, but may be updated (subject to change control) at any point in the project. Project definition is also reviewed at key milestones.

Subtopics

1.1 Projects and Change
1.2 Project and Process
1.3 Responsibility of Project Definition
1.4 Timing of Project Definition

1.1 Projects and Change

In response to environmental (external) and internal pressures, all organizations and enterprises are forever evolving through a continuous process of change.

Much of this change is incremental and occurs as the result of a largely unmanaged process of relatively minor alterations and improvements. Frequently the scope of the alteration is greater, and the work to achieve the change cannot be accommodated as part of the normal day-by-day process. From time to time an enterprise may make a major decision relating to future goals and targets, which triggers a large amount of change affecting many aspects of the operation. Experience has shown that these larger changes can be successfully implemented in a reasonable timescale by managing the activities in a formalized structure as one or more related projects. So a project can be considered as the implementation of a strategy, indeed the only reliable strategy for achieving a high degree of predictable change in a reasonable timescale.

1.2 Project and Process

A project is used to introduce change. Some organizations, or units of organizations, are project-oriented, and most of the 'normal' work is carried out in project mode. The only justification for processes is support of the projects, for example, building contractors, architects, hospital accident department, or systems development department. Others are process-oriented and the main task is the accomplishment of a predefined and probably well structured workflow, for example, insurance branch office or system operations department. In this context, projects occupy a relatively small proportion of the work force and the end product of any project is probably aimed at introducing or changing a process. All organizations (or units or departments) lie somewhere on a spectrum that extends from project dominance to process dominance.

All projects present problems. They are agents of change and all change entails some degree of discomfort, uncertainty or risk, and very probably all three.

The reaction of an organization to change is influenced by many factors including:

- Size
- Degree of reliance on "due process"
- Organizational responsiveness required
- Management and organizational style
- Time horizons
- Nature of the business
- Perceived or apparent threat to the membership
- Experience of previous change or attempts to change.

The more process-oriented the enterprise, the greater is the shock of the project and its intended effects. To make an organic analogy, an organism will respond protectively to reduce unwanted effects of changes. A human enterprise can often be observed to react similarly and it is common to encounter projects that have problems. They may be badly delayed, or never completed, or never seem to deliver benefits.

Of the reasons for project problems, the failure of management to take appropriate action - or indeed any action at all - is the most common. Such failures can have many causes including fear, resistance, lack of commitment, and uncertainty. A significant contributor to these causes is a diffuse definition of the project with no clear and unambiguous statement of who, what, when, how, and why.

1.2.1 Aspects of Project Definition

MITP project definition offers a statement of objectives, benefits, scope, bounds, structure, and responsibility. It has external aspects and internal aspects. It looks outward to the organization to:

- Ensure that the expected benefits and stated objectives are understood
- Define the scope and bounds of the project
- Obtain a commitment of active support from other parts of the organization
- Identify risks that may inhibit success and develop corresponding strategies to minimize their effects
- Define communications channels between the project and the "outside world"

- Confirm the commitment of the executive manager - or equivalent - who is responsible and accountable for delivering the benefits of the project to the organization as a whole.

MITP project definition looks inwards to the project to:

- Define project objectives
- Structure the project work in outline and to define the major components of the project - the subprojects
- Specify an estimate of timescale with major milestones
- Define the management system and responsibilities
- Offer a base for detailed project planning.

1.3 Responsibility of Project Definition

Defining the project is clearly your responsibility. To enable this to be carried out effectively you must involve the following people in its creation:

- The Project Sponsor as the person responsible for the total project commitment
- The key managers of the business affected by the project
- Any Project Office Manager and Subproject Managers who have been identified
- The consultant or facilitator who will manage the project definition workshop (PDW) and the production of the key project definition report (PDR).

1.4 Timing of Project Definition

A project is normally defined as soon as possible after it has been formally constituted or authorized. Typically, a great deal of preproject activity will have been carried out before this point, for example:

- Definition of need or opportunity
- Feasibility study
- Project identification and endorsement
- User requirements
- Cost and benefit analysis.

This list is not complete. It is illustrative, not prescriptive.

Project definition consolidates and reinforces the work that has been done earlier. The definition should be done at the time when all the significant decisions external to the project have been taken, for example, executive authorization, allocation of funds, and selection of supplier and equipment. This is the first point in time at which it is possible to take a synoptic view of all of the contributory work and decisions, to examine the mutual effects of all these factors, and to present a consolidated view of the total activity for endorsement by all interested parties. Ideally this project definition work should precede the detailed project planning. However, this rarely happens. If detailed planning and task work has been started, then decisions already taken will constrain thinking and may reduce the range of options available.

So if the project is already well advanced, it may be inappropriate or difficult for you as Project Manager to undertake this formal project definition process. You may instead be able to identify elements of work that have been done so far, which would constitute part of the definition process. If you can assemble these elements into a PDR, and the Project Sponsor and management team agree that this is representative of the project, then proceed on this basis. If, however, you cannot establish the elements of project definition, then your project is probably doomed and you should escalate this situation as a top priority issue.

2 Project Definition Workshop

Subtopics
2.1 Introduction
2.2 Identification and Endorsement
2.3 Objectives of the PDW
2.4 What Is the PDW?
2.5 Agenda
2.6 Setting it Up
2.7 The Rules of the Day
2.8 Getting Started
2.9 Controlling the Day
2.10 Preparation for the Facilitator
2.11 Facilities
2.12 Preparation
2.13 The Facilitator Is in Control
2.14 When Not to Run a Project Definition Workshop
2.15 Typical Progress through the Day
2.16 End of the Day
2.17 Follow-Up

2.1 Introduction

This one-day workshop takes a top-level view of the project. It clarifies the objectives of the project, explores how the project will be undertaken, reviews the various parts and how they will interact, and provides a basis for more detailed planning. The participants will be left with a common awareness and understanding of the breadth and impact of the project.

The output from the workshop should be used as the basis for the first draft of the PDR.

Note: You can hold any kind of workshop at any time in a project, for example, a subproject definition workshop or a joint application development workshop (see the Application Development Projects Guide).

Five major topics are covered in the PDW:

1. Goals and objectives
    - What are the business goals of the organization which apply to this project?
    - What are the business objectives of this project?
    - What are the technical objectives that will need to be achieved to fulfil the business objectives?
    - What are the changes you want to bring about, and what are the new things (technical, systems, organization, attitude) that will be left behind when it is finished?

2. Work scope and structure
    - What are the major items of work that must be undertaken?
    - How does the work break down into subprojects?
    - What will be the major milestones along the road to success?

3. Project organization and responsibilities
    - How will executive control over the project be maintained?
    - What are your responsibilities?
    - How will the subprojects be managed?
    - How will this organization fit into the existing company structure?

4. Management system
- How will the project be planned?
- How will progress be measured?
- How will problems, changes, issues be handled?

5. Risks
    - What are the risks that it will go wrong for business reasons?
    - What are the risks that it will go wrong for organizational reasons?
    - What are the risks that it will go wrong for people reasons?
    - What are the risks that it will go wrong for company culture reasons?
    - What are the risks that it will go wrong because it is too difficult to manage?
    - What are the risks that it will go wrong for technical reasons?
    - What are the risks that it will wrong for other reasons?

2.2 Identification and Endorsement

The following things should be in place before you start to define the project:

- A business requirement supported by top management
- An outline target solution to meet the business requirement
- Confirmation of the feasibility of the solution for the organization
- An initial understanding of the risks which may influence the project
- An agreed business case, which justifies the project
- A suitably senior Project Sponsor responsible for delivering the anticipated benefits
- A Project Manager responsible for achieving the project objectives.

The workshop is the start of defining the project. For a complete definition, any major issues raised in the workshop need to be resolved and the PDR, which establishes the high-level basis of the project, produced and agreed.

2.3 Objectives of the PDW

- Make the key decisions about the project definition topics
- Gain commitment of participants
- Confirm use of PDR as the basis for all project work
- Get agreement for follow-on work to:
  - Produce PDR
  - Project build and start-up.

2.4 What Is the PDW?

- One-day intensive planning session (brainstorming)
- Fixed agenda
- Participants carefully selected (maximum eight to 12 participants) including:
  - Project Sponsor
  - Project Manager
  - Key Subproject Managers
  - Managers crucial to project.
  - Leader or facilitator.
- No casuals, devil's advocates, people who thought it would be interesting to come along, or the like. Only people who have real responsibilities should participate. Observers may be O.K., but make sure they do just observe.

The role of the leader or facilitator is crucial - the participants must be free to debate the content, the facilitator is needed to manage the process and ensure that the objectives of the day are achieved. The facilitator should have no responsibility for any part of the project, ideally should be an independent agent, and certainly should not report organizationally to any of the workshop participants.

2.5 Agenda

The minimum set of topics is as follows. Exact wording may vary according to agreements with the Project Sponsor.

- Goals and objectives
- Work structure and scope
- Organization, responsibility, and resources
- Management system
- Risks, assumptions, and dependencies.

Additional topics may be necessary in any particular environment. It may be necessary to debate budget management, or related projects. The list above is the minimum, but it's normally enough. Do not make the mistake, however, of treading old ground. The project has been committed, so don't go over the preliminary work again. Don't spend two hours exploring a business case that has already been agreed.

Note: You will sometimes find, once you have started the workshop, that the preliminary work has not been done thoroughly, and that the project is not far enough advanced to be defined. In such cases, you can use the meeting to agree what further work has to be done to prepare for the definition, set an action plan, and fix a date for the definition workshop proper. This need not be a disaster: the workshop has served a useful purpose in identifying omissions (which would have inhibited progress anyway) so even this is constructive.

2.6 Setting it Up

A meeting should be arranged between you, the Project Sponsor, and the facilitator to confirm:

- The purpose of the PDW
- That expectations are properly set
- That the project is identified and endorsed
- The agenda
- Who should attend the PDW
- Whether any further briefings are needed
- Administration arrangements, for example, location.

If project definition is an organizational standard, this meeting will not be a surprise. If project definition is a new activity, the purpose of the preliminary meeting must be made clear.

It is important above all that the sponsor should really support the definition and endorse its aims. If this support is missing, the project has got off to a poor start, and may well die.

2.7 The Rules of the Day

It is worth setting some ground rules for running the PDW:

- Democratic process:
  - Open debate
  - Equal status
  - Construction not demolition.
- Approach:
  - Work through the agenda items
  - Don't leave an item until agreement is reached (but revisions are possible)
  - Document agreed views
  - Note issues.
- The facilitator will act as catalyst, driver, and scribe - the PDW participants will do the work. The facilitator is the process manager, not the content manager.
- A wise facilitator reserves the right to make further rules as necessary.

The facilitator acts as catalyst and will drive the process and is there to enable the thinking processes, but not to tell the group what the decisions should be. This is sometimes difficult for individuals who regard themselves as "fixers" or like finding the answers. The real fixing here is providing the environment in which the group finds the answer.

There is one further tricky area: the degree of technical detail. The facilitator must distinguish carefully between the project (which is "the system for building the system") and the details of the system being built. Participants of a technical persuasion will all too readily leave discussion of the structure and management of the project in order to explore the things that really interest them like networks, and connectivity, and features. The facilitator must manage the degree of technical detail and if necessary suppress it. Some techniques include:

- Ensuring that you and the Project Sponsor understand that the PDW is about defining the project, not discussing technical things.
- Selecting the right people for the workshop
- Setting up other workshops, for example, architecture review, design, technical planning, so that the difference between project and system is emphasized, and the technical staff don't feel left out.

2.8 Getting Started

At the start of the PDW, the facilitator should:

- Introduce people.
- Introduce the projects. Make sure everyone has the same basic information about projects and project management.
  This session also serves to introduce the facilitator and his or her style. The success of the day depends a lot on personal chemistry, and if the facilitator is a stranger, there will be a familiarization period.
- Describe the PDW and its topics.
- Describe the mode of working, end product and follow-up. Introduce the idea of working on flip charts.
  Some hints for the facilitator on using the flip charts are:
  - If you need to, do rough working on a chart, and then make a fair copy
  - Sequence number the charts
  - Before you start, label one chart "Issues", and as you come to issues during the day, write them up for subsequent fixing
  - Ensure that someone will take the charts at the end and have them transcribed.
  This is not normally a problem: it's common to find the Project Manager and the sponsor both claiming them.

Explain the rules for the conduct of the workshop.

At the end of the day, the PDW participants must not think they have finished. They should think they've made a good start and be eager to get on with the follow-up work. Project definition is a process, sometimes quite a protracted one, not a one-day workshop.

2.9 Controlling the Day

The facilitator should introduce the day. The first speaker can set the mood, tone and expectation for the entire day. If the sponsor does the introduction, then his or her authority may be imposed on the group and free discussion and new ideas may be inhibited.

Remember that the facilitator must be the main focus. The facilitator is responsible for determining the shape of the day and for ensuring that the work is done. The participants determine what that work contains.

The facilitator may delegate authority from time to time, but must be able to regain control instantly.

Don't allow people to drop in and out during the workshop. For instance, don't let managers come along for lunch, or allow in a sales manager from a supplier to complete an order, or let the sponsor leave for another meeting. The facilitator may need a lot of tact and luck to manage issues of this kind.

2.10 Preparation for the Facilitator

The facilitator may not be able to do enough preparation, and may as a result feel vulnerable. This is no problem. The challenge is to manage the group, to make its interactions constructive. This depends on the facilitator's experience and personal skills in group dynamics.

It doesn't matter that the facilitator knows less about this project than the people around the table. But it is important that the facilitator should know a lot about project management - what works in projects and what doesn't. The real skill in facilitating lies in guiding the debate so that the group defines a project which is feasible for them. From time to time, the facilitator may use a variety of techniques, questioning, suggestion, and devil's advocacy, to test the thinking and to encourage the group to come to suitable decisions. The role is handling the debate and agreement, not providing advice on business processes.

2.11 Facilities

- Location:
  - Off-site preferable
  - No interruptions.
- Room:
  - Quiet
  - Suitable size
  - "Round" table, but preferably U-shaped so that the facilitator can approach people if necessary
  - Focal point
  - Right number of chairs
  - Walls all right for flip charts.
- Lunch:
  - Keep group together
  - Don't allow time for messages or popping back to the office to take a look at the in-tray.
- Other breaks:
  - Take as needed: it will be obvious. Be prepared to have a break fairly soon after lunch if things are getting a bit heavy
  - An inexhaustible supply of coffee, tea and water available in the room is preferable to the arrival of refreshments at predetermined times.
- Equipment
  - Two flip chart stands
  - An excess of flip chart paper
  - Lots of pens that work
  - Adhesive
  - Spare bulbs for the foil projector. If you have a foil projector, ask yourself whether you're really doing a project definition. You may be running an update meeting or a design review, but it may not be a project definition.

2.12 Preparation

The facilitator should ensure that all the administration arrangements have been made. The facilitator should:

- Arrive early on the day to check everything.
- Bring spare pens and adhesive.
- Change the layout, if necessary.

The PDW is difficult. Don't let the inanimate objects create extra unnecessary hazards.

2.13 The Facilitator Is in Control

Assume control at the start. You have been given control by the very fact that you are running the PDW. The group will usually expect to be guided and directed. People often like it, either if they're very busy, or not absolutely sure of what they're doing. Use discretion and sensitivity because, while your authority exists, you have borrowed it from the Project Manager or the Project Sponsor, so don't upset them.

- Focal position. Don't let the Project Sponsor have the throne or the only chair with arms - keep the focal point.
- Modify level of control by:
  - Posture
  If you are sitting you are part of the circle, if you stand up, you have lifted yourself above the group and, for the moment, have acquired an authority, which you can use or lose.
  - Eye contact
  You can use this to encourage or quell.
  - Movement to and from focal position
  If you are hiding in a corner of the room, you are not well placed to dominate. You can move to the focal point and gain authority, you can move away and yield it. You can move towards people, and put the pressure on them, you can move away from them and reject in effect by having your back towards them.
  - Voice.
  Vary it. You won't be talking very much but remember you can vary volume and speed and pitch to achieve the effects you're seeking. You can use the inflection of your voice to encourage or discourage continuation of the debate. If you end a sentence on a rising inflection, and leave the end of the thought hanging, as it were, in mid air, you will almost certainly get a reply. By contrast, if you say something, such as the reply to a question, curtly, and with a falling inflection, you will discourage continuation.
- Let the group communicate.
- Ensure everyone participates.

Everyone has had experience of using these physical controls, but it's often instinctive so you don't think about how you do it, unless you're called upon to teach or act or manage a group dynamics session.

2.14 When Not to Run a Project Definition Workshop

- If the project is already well advanced. If you're too early in the definition, no problem. You can turn it into a "predefinition" or something, identify the work, for example, requirements, product selection, and approvals, which is needed, and fix a new date. But you should have spotted this in a sponsor meeting beforehand. If you're too late, then you could test how adequately project definition has gone by asking some questions like, "Tell me what the business objectives are?", and see what kind of answers you get. You will at least quickly arrive at a definition that the participants spell out to you. This, however, is extremely unlikely and there is probably some useful work that can be used in doing a late project definition exercise. and this can tune the current project, for example, improve the review and reporting, and suggest a project definition "the next stage".
- If the project is limited in scope, for example, application development only, and is running within an existing management system, you may be able to introduce definition as part of the process. But much of the scope will be part of normal business. You may be able to do a useful job, but if you don't recognize the risks you may commit overkill. People may resent wasting time.
- Culture of the environment may preclude free debate or the kind of open thinking that encourages good definition.
- An outsider as facilitator, usually a benefit, may on occasions inhibit free discussion, because of style and cultural conflicts.

2.15 Typical Progress through the Day

All projects are different. There is no standard pattern for a PDW and each brings its own little surprises. There is usually a rush at the end. An agenda will have been set, but the progress might well be something like:

0900 Facilitator introduces the day and its structure

0916 Project Sponsor has been allocated five minutes on "why the project is important", but in fact takes nearly twenty.

0935 Debate starts with goals and objectives: Why are we doing this project? List answers to this question to match with goals and objectives that they may have already. The Project Sponsor often thinks this session will last for no more than 10 minutes: one hour or more is normal. At the end of this, you have two charts (and may be rough working) that you may modify later in the day

1105 Work. Point B and point A (see "The Project Start Point (A)" in topic 3.9.2 and The Project End Point (B)). Two to four charts. Point B is not fully compatible with objectives. Rework both. List subprojects

1230 Buffet lunch in adjoining room

1315 Revise subprojects

1345 Specify one subproject as an illustration. Remainder can be done as follow-up

1410 Milestones listed and shown on time-line

1450 Subprojects shown on GANTT chart with milestone time-line as X axis. Show how to relate project milestones to subprojects so that they can do this later in subproject planning

1510 PROBLEM. WE'RE RUNNING LATE. Aim to sketch organization section in 45 minutes and do the remainder in follow-up work

1511 Organization chart. Who's responsible for what. Identify Subproject Managers or, if you can't yet, identify who is responsible for fixing and by when. Leave resources for subproject planning

1550 Management System. Develop progress review plan. Define role and make-up of steering committee. Identify change, problem, and issue management systems. Fix date when Project Office Manager will document and agree these processes

1655. RUNNING LATE AGAIN. Leave quality reviews to follow-up work

1656 Risks. What are the main risks? List them

1710 Risk management: what are we going to do about each, or, if we don't know who will be responsible for fixing

1735 Still 10 risks to go. Project Manager commits to giving sponsor a document summarizing risk management strategies for the remaining risks by next Tuesday.

1736 Action plan:

- Transcribe charts
- Specify all subprojects and do outline plans
- Fix the identified issues
- Finish the risk management section
- Reconcile subproject plans with overall milestone plan
- Produce final draft PDR
- Facilitator to review PDR with Project Sponsor and
- Project Manager in three week's time.

1750 Finish. Collect charts (remove the adhesive)

1815 Stagger out

What went wrong? Not a lot, but the early part of the day was a bit relaxed, and there was consequently a rush later. Rectify in the follow-up period. All the key points were discussed.

2.16 End of the Day

- What do you want them to be thinking and saying?
- That was a useful day.
- We've made a good start to the definition.
- The follow-up work and action plan are clear.
- I didn't think we'd achieve quite as much as that.
- It raised several things we hadn't thought about.

2.17 Follow-Up

After the PDW:

- Make sure there is follow-up to the PDW.
- Track progress carefully. If the project activities, start slipping now, they will continue to slip.
- Offer guidance promptly.
- Be prepared to blow the whistle early. Don't wait six months for the disaster that was obvious after three weeks.
- Ensure the project activities can proceed constructively from the definition into the build, start up and the work of the project proper.

3 Project Definition Report

Subtopics
3.1 Introduction
3.2 Size
3.3 Timescale
3.4 Changes
3.5 Content
3.6 Subproject Selection
3.7 Subproject Specification
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3.1 Introduction

The format and style of the PDR depends on the practices of the organization and the nature of the project. A template with suggested headings and preface is provided (see "Project Definition Report Template" in topic A.0). You can use or adapt this for your own project needs.

3.2 Size

An effective PDR is typically between eight and 10 pages long. Five pages may be enough for a small, simple project that is to run in a well-defined environment. Between 15 and 20 pages may be needed for a large complex project with wide-ranging effects. It would be unproductive to make the PDR larger, and further detail should be reserved for the subproject definition and planning documents.

The essential point about the PDR is that it should be read, understood, and supported by all interested managers. This will not happen if it is too long.

3.3 Timescale

The content of the PDR is best formulated in outline by a small group of key managers (including you and the Project Sponsor) in the PDW.

As far as follow-up work is concerned - the refinement and reconciliation, the start of subproject planning and publication of the final document may take some weeks. It is imperative that the final PDR is completed and distributed, even though detailed task work will have started by this time. If the PDR cannot be produced or finalized because of failure to agree on a key point, then the Project Sponsor must call a halt for reassessment. The project must not be allowed to drift on without a clear definition. The PDR will be used to support decision making throughout the life of the project.

3.4 Changes

The PDR is liable to be changed during the course of the project and must, therefore, be subjected to formal change control. As it is a high level, summary document, only major changes to the project should affect it.

3.5 Content

The PDR should cover the following topics:

- Preface
  The purpose of this report.
- Management summary
  Even though the PDR is not very long it is desirable to have a management summary. Busy managers who have only a peripheral interest in the project, will not read the full report, but they may read the summary and be enticed into reading the rest.

- Introduction
  This section may alternatively be called Environment or Background. It should include a brief description of the environment and of the circumstances that have given rise to this project.
- Goals and objectives
  - A statement of the business goals of the organization to which this project is contributing.
- - The business objective of this project in terms of achievement of measurable business benefits. If this information is confidential, the report should be classified and circulated accordingly.
- - The technical objectives of the project that need to be completed to achieve the business objectives.

  This section should clearly state what the project is trying to achieve and how people will know when the project has been done. Success criteria and completion criteria should be included here. Quantifiable targets are essential. They should read in terms of what will be achieved, in what timescale, and they should be measurable. Many objectives are framed in soft terms, usually because of inadequate work done on the business case before the project definition work starts. Even if the project objectives are soft, for example, improving client satisfaction with a service, then determine how that change can be measured.
- Work structure and scope
  A top level description of the work that must be planned, resourced, and completed in order to bring about the business changes encapsulated in the objectives and scope of the project. This should include:
  - A short definition of what activities or deliverables are included in the project. Where it helps, a list of items excluded from the project can be added.
  - A brief description of the start point and the end point of the project. The difference in status between these points represents the total change which will be achieved by the project and identifies the new things (technical, systems, organization, attitudes) that the project will establish.
  - The division of the work into subprojects. An outline specification should be given for each subproject.
  - Major milestones. These are the key events within the project. At this stage they may not have dates attached to them.
  - A tentative schedule may optionally be included but this can only be a target. The PDR is not a plan.
  - Deliverables. The major project deliverables must be stated somewhere within the PDR. They may be listed here, or in the subproject specifications, or in the objectives section.
- Organization, responsibility, and resources
  This shows the structure of the project. It is likely to include:
  - Names and responsibilities of key people, and significant Project functions these might include:
  - Project Sponsor
  - Project Manager
  - Subproject Managers
  - Project review board
  - Project assurance board
  - Project Office.
  - Organizational structure for the project showing reporting lines, highlighting any

departures from the normal practice of the organization.
- A resource plan, to the extent that is feasible before detailed subproject planning has been done.
- Budgets and budgetary control.

- Management system
  An overview of the management system that will be used for planning, tracking and control. This might include:
  - Techniques to be used for planning
  - Measurement and assessment of achievement
  - Checkpoints
  - Processes for the management of changes, problems, and issues
  - Review and reporting mechanisms.
- Risks, assumptions, and dependencies
  The PDR must include the assumptions upon which the project and its plans will be based. In addition, it will be necessary to state the dependencies of the project upon external services and functions. These may be included here, or treated in a separate section.
  When preparing for project definition, the management team should have assessed the perceived risks and set a containment plan accordingly. Risk assessments are sometimes sensitive, and if necessary you may need to classify the report accordingly and restrict circulation. Do not restrict the circulation within the project management team; after all, they should be aware of all the risks.
- Additional sections
  As necessary. Four common additions are:
  - Budgets as a separate section.
  - External services, liaison and dependencies.
  - Related or associated projects.
  - An appendix citing associated documentation.

  Be wary of 'piggybacking' too many additional sections into the PDR. It has a very specific purpose and should not be confused with other requirements, or used for general communication for anyone who might be interested in the project.

3.6 Subproject Selection

The project is divided into subprojects each having its own Subproject Manager. How many subprojects? Some simple projects may have only two or three, but even the largest and most complex projects should not have more than 12.

The main criteria for subproject selection are:

- Independence. The work of a subproject should be separable and clearly bounded.
- Clarity of objectives. Each subproject should represent a coherent body of work.
- Importance to total project. Each subproject should be a significant part of the project work. But it need not have a deliverable that is visible to the outside world. Some subprojects are internal to the project as a whole.
- Size. This should be assessed both in absolute terms and relative to the total work of the project.
- Manageability. The whole point of splitting the work into subprojects is to make it easier to manage.

In practice, subproject boundaries are usually fairly clear in principle, but ambiguous in matters of detail. Some readjustment of the boundaries during the planning stage is normal.

While there is no such thing as a typical project with typical subprojects, there does seem to be a number of subprojects which appear consistently across different projects over time. Use the following list to trigger thinking. It is not definitive:

- Business processes
- Contract management
- Requirements
- Design
- Planning and estimating
- Software development
- Building construction
- Equipment procurement and configuration
- Testing
- Roll-out
- Training
- Communications
- Migration from old to new
- Decommissioning
- Disaster recovery
- Cutover and acceptance.

3.7 Subproject Specification

The PDR should contain an outline specification for each subproject. The headings given here are the minimum necessary to specify a subproject. Further headings may be desirable in a particular project.

The subproject specifications should be independent documents, one to three pages long. In the body of the PDR, the subproject specifications should be abbreviated to only a few lines.

The complete subproject specification should include:

- Name of subproject.
- Objectives. Preferably in quantified terms.
- Scope of work. You must carefully define what is included and what is excluded, in order to eliminate confusion.
- Deliverables. The work output of the subproject. Deliverables may be tangible, for example, 20 cash issuing machines physically installed, or intangible, for example, 30 staff in department x trained in procedures A, B, and C.
- Milestones. Key events, internal or external. The major external subproject milestones will probably be included in the project's overall milestone plan.
- Organization and responsibilities. The names and responsibilities of the key individuals.
- Risks and dependencies. Any risks and dependencies, other than those generally applicable to the project as a whole.

This specification is the basis for the subproject plan.

In the PDR, the abbreviated specification may contain only:

- Name of subproject
- Name of Subproject Manager
- Summary objectives
- Outline scope of work
- Key deliverables.

The subproject specifications act as the starting point for the subproject plans. These, when reconciled and agreed, form the basis of the project plan.

3.8 Project Definition Report Summary List

To summarize, the PDR should cover the following topics.

3.8.1 General

1 Consider the following general points:
What is the size of the document? Is it concise?
- Small projects approximately five pages
- Most projects typically between eight and 10 pages
- Very large projects between 15 and 20 pages.

2 Is the level of the document appropriate to enable it to be read, understood, and supported by all interested managers?

3 Have all the attendees got an immediate copy of the PDR. This may be little more than an organized copy of the flip charts.

4 Has the project definition report been agreed and finalized?

5 Are there change control procedures for subsequent changes to the project and the project definition report?

6 Have all sections of the definition been covered?

7 Is there a management summary?

8 Are other sections necessary in this report, for example, budgets, related projects? Have they been written?

9 What do you think of the integrity and consistency of the whole document?

10 Does the right person own it?

11 Did the right person write it?

12 Will the right people read it?

13 When they read it will they:
- Understand it?
- Approve it?

14 Does it "feel" right, that is, is your intuitive response to the document encouraging?

15 Do you believe that the next phase of the project will happen? Roughly as anticipated? In accordance with the definition? If not, what can you do about it?

16 What changes would you make to:
- Improve the report
- Improve the chance of project success.

3.8.2 Report Contents

The PDR should be structured as follows:

1. Preface
2. Management summary
3. Introduction
4. Goals
    a) Are the goals long term?
    b) Are they plausible goals?
    c) Do they correspond with overall goals, strategy and direction for the organization, division, department?
    d) Do they give a clear and concise picture of how the project contributes (and relates) to the organizational direction
5. Objectives
    a) Do the objectives specify what is to be accomplished or achieved?
    b) Will it be clear when each objective has been achieved?
    c) Will it be clear how well each objective has been achieved?
    d) Are they quantified and measurable?
    e) Is there an objective which quantifies what business benefits are expected, and when?
    f) Is the number of objectives reasonable (if there are more than six or seven, is the level of detail too fine, or is the project over-ambitious)?
    g) Do the objectives define precisely and completely the anticipated state at the 'B' point (as opposed to stating what work has to be done to get to the 'B' point)
6. Work structure and scope
    a) Is there a clear list of the work that is to be done to get to the 'B' point?
    b) Is there a clear statement of the 'A' point?
    c) Is there a list of subprojects?
    d) Is the list comprehensive?
    e) Is the work of suppliers clearly identified?
    f) Is there any work that does not seem to contribute to an objective?
    g) Are milestones defined for the overall project?
    h) Are they real checkpoints?
    i) Are they well spaced?
    j) Do they relate well to subprojects
    k) Does the milestone plan seem usable?
    l) Have the subproject milestones been developed yet?
    m) Is there a clear statement of the work that has already been done?
7. Organization, responsibility, and resources
    a) Are the key people identified and committed:
        - Project Sponsor
        - Project Manager
        - Key Subproject Managers
    b) If the size of the project justifies it, has the Project Office been identified, committed, and staffed?
    c) Is there a project board?
    d) Is it constituted appropriately?
    e) Are its terms of reference defined?
    f) Are the terms of reference helpful and constructive?
    g) Are the key job responsibilities clearly defined and agreed?

h) Is the Project Sponsor the right person and at the right level?
i) Is there real commitment from the Project Sponsor and the Project Manager?
j) Has the project organization been agreed?
k) Are suppliers clearly positioned in the project organization?
l) Are the responsibilities of suppliers clearly defined and agreed?
m) Is the organization workable within this environment and culture?
n) Have people and resources been identified and committed?
o) Are the responsibilities of the key people identified and agreed?
p) Has responsibility for all of the key work items been allocated to identified individuals?
q) Have budgets been allocated?
r) Is the proposed budget management system, cost tracking or whatever, acceptable to the finance people?
s) Are you confident that the resources or people not yet identified and committed will be made available?
t) Are the functions that provide a service to the project, as opposed to being one of the teams within it, clearly identified, for example, premises department?

8. Management system
   a) Is the progress review plan clearly defined?
   b) Does it look O.K. (level, frequency, duration, reporting)?
   c) How is achievement going to be defined, measured, rewarded?
   d) Is quality control accepted as a line responsibility?
   e) Is there a quality assurance process? Will it achieve anything?
   f) Are quality assurance reviews part of the project?
   g) Are there milestone reviews, checkpoint reviews, readiness reviews? A sensible number?
   h) Have the problem, issue, change management systems been identified and specified?
   i) How are risks going to be managed?
   j) Does the management system embrace departments that provide support to the project but which are not themselves members of the project? If the answer to this question is "yes":
      - Are the arrangements satisfactory?
      - Does the definition explain how issues, progress and quality in the work of other departments will be managed?
   k) Is the management of suppliers? How will suppliers be managed?
   l) Which tools are being used?
   m) Do the managers know what is expected of them in the management system: is this a reasonable expectation?
   n) Is the management system workable
      - As a structure?
      - In this context?
   o) Is the management system too complex? Are there too many forms and processes? Will you be managing the process rather than the project?
9. Risks
   a) Is there a list of risks?
   b) For each risk is there a statement of severity and containment action
   c) If some or all risks are omitted (personal, commercial, or cultural sensitivity) are you confident that someone is managing them?
   d) Will the risks be managed through the life of the project?

10. Assumptions
    a) Is there a list of assumptions?
    b) Have they been tested?
    c) Are they plausible and complete?
    d) As the project progresses will they be reexamined?
11. Dependencies
    a) Is there a list of dependencies?
    b) Are actions in place or in plan, where relevant, to manage external dependencies?
    c) Where a dependency is crucial to a subproject, is this spelled out in the subproject specification?
    d) Is there a clear picture of major subproject interdependencies which the Project Manager must manage?

3.8.3 Additional Sections

Include additional sections as necessary.

3.8.4 Subprojects

If you have subprojects, you should consider the following for each subproject:

- Are the interdependencies of the subprojects within the total project clearly defined?
- Are the objectives clearly defined?
- Will the subprojects as specified be able to deliver all the work implied in the 'B' point list? Is there any mismatch?
- If the subprojects as specified are completed successfully, will all the project objectives have been achieved?
- Is the importance of the subproject to the total project defined?
- Has the size of the subproject been assessed?
- Is the subproject a manageable piece of work?

For each subproject, are the following specified clearly enough:

- Name
- Objectives
- Scope of work
- Deliverables
- Milestones
- Organization and responsibilities
- Risks and dependencies

An abbreviated form of subproject specification should cover:

- Name of subproject
- Name of Subproject Manager
- Summary of objectives
- Outline scope of work
- Key deliverables.

3.9 Project Goals and Objectives

The goals of the project are the organization's business goals which are relevant to this project and may be either partially or fully achieved if this project successfully fulfils its own objectives. An organization may, for example, have a goal of increasing profit by 2% a year. In itself, this project might only contribute 0.5% next year and 1% subsequently. Both the organization and the project need to understand precisely what the project's contribution to goals is going to be.

Once the goal context of the project is understood then you can articulate the business objectives of the project itself. An example could be to reduce the level of inventory held in stock by 5% in year one and then 10% in subsequent years. The reduction of costs by achieving this objective would relate back to the organization's profit goal.

The next step is to identify what technical or work objectives need to be achieved to deliver the business objectives. These could be to:

- Introduce an electronic point of sale system to 250 retail outlets during year one and the remaining 250 in year two.
- Develop an electronic data interchange capability with all the ordering and invoicing systems such that:
  - All ordering systems issue orders to supplier within one day of stock warning received
- - All orders are reduced by the margin required to meet or exceed the 10% stock reduction resulting from the reduced turnaround time
- - All invoicing systems pay invoices to supplier within one day of receipt to achieve less than 30 day discount terms of 5% per invoice.

The project objectives should be expressed, whenever possible, in quantified terms, for example:

- Branch processors will have been installed in the four branches at P, Q, R, and S with at least 10 terminals attached to each.
- Three training teams, each with a supervisor and four professionals, will have been set up and each will have run at least one course.

An objective may be:

- To install online point of sale equipment in branches A, B, and C.

The goals may be to:

- Install online point of sale equipment in all group stores
- Develop an integrated sales and stock management system.

The benefits may be:

- An increase in the number of transactions per day per salesperson
- A reduction in the number of days for stock turnover
- An ability to measure the rate of turnover by item group rather than on an overall basis.

For a major group of related projects, the benefits of one may be visible only in terms of enabling other projects to proceed. This is valid.

3.9.1 Work Structure and Scope

A powerful method of identifying all the work that needs to be done within the project is to define the state at the start of the project, point A and then to describe the state that will exist at the end of the project, point B. The work that has to be done can then be derived by comparing points A and B.

A large project is demanding not only because of the volume of work but also because of its range, complexity, and the degree of interaction between disparate work components. Managing this complexity is a formidable task.

The challenge of the work can be met more readily if the work is structured suitably. Project definition is the appropriate time for this. The work should be structured into a number of subprojects with the minimum number of mutual interfaces, and each must have its own manager, objectives, work plan, output, and so on. Each of these subprojects, which may occupy many people for many months, can thus be treated as an almost separate component of the total activity. A management system can then be created to give you adequate hierarchical control of the relatively small number of subprojects that make up the total project.

3.9.2 The Project Start Point (A)

In a project that is aiming for theoretical perfection, the date chosen should be a true starting point that precedes all detailed project work, but which follows all exploration and authorization. In real life formal definition rarely happens so tidily. The starting point is usually a fairly arbitrary point in time, probably representing the state at or just before the project definition.

The following list indicates some of the areas that may be relevant to the definition of point A, either because they will be changed by the project, or because they will impact the way in which the project runs:

- Information systems: hardware, software, and applications that are installed, being developed, or in-plan.
- The information systems staff: their organization, numbers, and skills.
- The user populations: their organization, numbers, skills, and attitudes.
- Previous event and historical experience that may have a bearing on the project.
- Work practices and staff agreements.
- The management systems that exist today within both the organization responsible for the development work of the project and the organizational units that will be using the system.
- All current plans within the development organization and the user organization that may be relevant to the progress or outcome of the project.
- Any contractual commitments or business relationships that are likely to influence the progress of the project.

3.9.3 The Project End Point (B)

Point B can be defined in the same way. Clearly there are similarities between the items that may appear in defining point B, and those that were included in the list for point A, and the items should be chosen to highlight the changes that the project will introduce:

- New hardware, software applications installed
- New locations or buildings
- Changes to information systems staff, their organization, and their skills
- Changes to user work patterns, processes, jobs, and organization
- Different work practices
- Organizational changes.

The statement of project end should be founded in the benefits to be achieved.

Specifying the end point very clearly has a practical advantage. Many projects end in an atmosphere of dissatisfaction because nobody was certain what the end point should actually have been. This problem can be eased (although probably not eradicated) by carefully defining point B. If you ensure that the list defining the end state is comprehensive, and that there are work objectives to address all the items, then the opportunity for confusion is reduced. One aspect of the end point is usually the delivery or commissioning of a system that has been developed within the project. This relates to the work objectives of the project but is not sufficient as a total definition of the project end. From the enterprise point of view, the project was initiated to achieve some benefit. Completion of the project tasks is a means to an end: the end is the benefit.

Note: Some of the items in point B may have been achieved a long while before the project actually ends.

It is also important that the project timescale should be realistic. Too long a time leads to demotivation, questioning of the aims, or to major changes in the requirements that may render the project irrelevant. Too short a time may be inadequate to achieve other than trivial change. Organizations vary greatly in their capacity to absorb change, so in a context in which change occurs only slowly, you should structure a large project so that intermediate phases can deliver visible output at reasonable intervals.

As an example, the completion of a system that supports many hundreds of distributed locations may take five years or more. This is too long. The project is better divided into two. The first would be the development of the center supporting the installation of the first pilot locations. This project would normally include the setting up and proving of the mass install activity. The second project, performing the mass installation is different in nature. It is more of a process activity, with some project characteristics such as a special management system and a defined date on which the activity ends.

Experience has shown that detailed work on point B usually reveals risks or inhibitors that had not been previously recognized. Appropriate containment strategies can be developed.

3.9.4 Identifying Subprojects

It is probable that the project work to be done will already have been explored and planned in detail: it may well have started. Nonetheless, it should be reviewed here as this is the first opportunity to assess it in its overall context. The work breakdown for this definition document should remain at a relatively high level. There should be enough detail to:

- Ensure that all the goals defined in the project end point are covered by the work plan
- Permit breakdown of the total work into subprojects.

The concept of subprojects is a valuable aid in both structuring and managing a project. See "Subproject Selection" in topic 3.6 for a list of 'typical' subprojects.

Subprojects are logical units of work. In a large project a number will be running concurrently. Some may extend for a large proportion of the total project, others may be contained within a relatively short time. Subprojects will probably be organized in a hierarchy, with subproject leaders reporting to the Project Manager. The organization and management system must acknowledge the fact that this is a dynamic situation: subprojects often exist for only a part of the overall project timescale.

A subproject is a concept that allows a coherent group of tasks to be bound into a structure convenient to the project and its management system. Typical subprojects might be:

- End user training for pilot system
- End user training for mass install
- Application design, code and unit test
- Plan and install cables in pilot locations
- System documentation.

It is impossible to make precise numerical estimates, but as a guideline one could assume that a project will have more than five subprojects but probably fewer than 25. No more than 15 are likely to be concurrent. A Subproject Manager or leader may be responsible for one or more subprojects.

The subproject will be broken down into tasks or work packages or whatever the smallest unit of work is called. Checkpoints may be established within subprojects to assure and monitor the completion of groups of tasks. Checkpoints will normally be internal to subprojects, milestones may occur within major subprojects, and almost certainly at the end of a subproject.

Note: Some subprojects will exist only to support the goals of the project as a whole. The deliverables will be used only by other subprojects. They have no business justification in isolation. The work they do is necessary to the project as a whole and the subproject structure can be regarded as a convenient way of packaging this work.

3.9.5 Specifying Subprojects

A specification document, no more than one page long, should be written for each subproject. This will be used in subsequent processes to develop the subproject objectives documents and in all subsequent task and resource planning.

All detailed planning, concerned with tasks and resources, will be done on a subproject basis. There must, of course, be a project administrative function responsible for coordinating the subprojects.

The specification of the subproject should cover:

- Name.
- Scope of work. What is to be done within this subproject, what are the boundaries of the work (to reduce the chance of misunderstanding), and what is excluded that some people may think is included?
- Objectives. What is this subproject to achieve? Ideally this is expressed in quantified terms.
- Deliverables. What are the work products to be delivered by the subproject?

  Note: These may be tangible, for example, a new machine room, or intangible, for example, skills acquisition.

- Milestones. How are they distributed through the subproject, and do they represent identifiable events
- Organization and responsibilities. Subproject Manager, people, reporting. Planning and tracking system if this needs to be specified at the subproject level. (There may be cases in a very heterogeneous project where different techniques are applicable to different
- subprojects.)
- Risks and dependencies. What risks are specific to this subproject, and upon what, for example, other subprojects, is it dependent.

Remember that this work is being done as part of the overall project definition: it is part of a top-down process. In theory, the detailed task and resource planning has not yet started. In practice of course a great deal of detailed work will already have already been done. But it will not have been done on the correct, up-to-date, and agreed planning base that is represented by the PDR. The detailed planning work, resource allocations, dates, and task breakdowns, is still subject to the subproject planning process, which will follow project definition. All the preliminary work must be regarded as tentative. It is subject to modification as part of the cycle of events that is normal in the early parts of the project. The early drafts of the PDR will be updated as a result of the more detailed planning: the PDR and the detailed subproject plans are complementary documents.

This iterative process by which the top-down definition is integrated with the bottom-up detailed planning, is a normal and necessary part of the project setup activity.

3.9.6 Milestones

Some of the key externally visible achievements or events will already have been identified. These dates will almost certainly be included in the project milestones. The milestone is a simple concept. It is an event that is important to the project, may be visible externally, and represents the completion of a significant part of work within the project.

Milestones can be very valuable management tools. You cannot track progress accurately week by week towards a target that may be 18 months away. It is more feasible to monitor progress through a series of targets set at intervals that do not exceed a maximum of three elapsed months. These milestones may be at a subproject level, with the main milestones reflected through to the project plan at wider intervals. Improved accuracy of tracking and hence better confidence in the tracking mechanisms should result.

In addition, honest reports based on progress toward milestones, can represent a very concentrated distillation of the project as a whole. Milestone management is therefore a very good base on which to build the project executive reports. Even a very complex project may be working towards only four or five project milestones at any one time, (within parallel subprojects) and therefore the complexity of management reporting can be eased greatly.

Milestones depend on the nature and complexity of the project, on the management styles, and on the degree of delegation. Some organizations reserve the notion of a milestone and its associated formal reviews for a few really major events, using lower grade milestones or checkpoints for intermediate stages. A safe rule to apply is that every subproject should ensure that it has a milestone, or a mini-milestone or a checkpoint, at intervals of no more than a year of work on the subproject or an elapsed time of no more than three months at the outside: an average nearer to six weeks is better.

There is one further point to make about dates which may emerge from consideration of milestones or schedules. If some of the dates, like going live, have been imposed externally by assertion rather than derived internally by planning, there will be an associated risk. It is worth keeping an eye open for this during the project definition. Some dates, set a long time previously and now firmly embedded in corporate goals, may be unattainable. Project definition may be the first activity to identify this. If such a problem is identified now, it must be addressed and fixed. Embarrassment will be caused but will be less than the embarrassment of hiding the problem now and failing later to meet the agreed targets.

3.9.7 Schedule

Everyone involved must have a consistent and coherent idea of the overall shape of the project, based on milestones, and be committed externally to key dates. In theory no final commitment can yet be made because the detailed task and resource planning has not been done. In practice, a great deal may already have been done as part of the preproject setup and the key dates may be very firm indeed.

At this stage even a very high level block diagram will show the mutual relationship of work units, and how they match the anticipated schedule. Here again it is advisable to relate this back to the end-point definition, and to the specific objectives, to ensure that the work is complete.

Schedules, milestones, and subproject definition are tightly linked. The work on these will proceed iteratively. In practice, one often starts with major (external milestones), moves on to outline schedule, and then begins to structure subprojects in relation to these.

3.9.8 Management Structure and Responsibility

In a commercial environment, the Project Sponsor of a major project will be a senior executive - on the board or reporting to a board member. The Project Sponsor is the senior executive responsible for delivering the benefits of the project to the enterprise, and must have the capability and authority sufficient to resolve issues of the project in relation to the environment. It is crucial that his personal involvement is maintained, on a planned basis. If the project is identified as a major activity within the strategic plan of the company, the Project Sponsor cannot delegate his or her role.

The Project Manager is the bridge between the project and the outside world, in formal terms through the Project Sponsor but practically you can use any valid communication route.

Your prime responsibility is the achievement of the project objectives. The way in which you achieve this will depend on the organization and systems in place, on the style of the company, on your relationship with the Project Sponsor, and on your own management style.

Is there a need for a project review board? In some organizations this is standard practice, or standard for all projects exceeding a certain size. It may be necessary if the project encompasses a large number of company divisions or cuts across many reporting lines. If the review board is customary, it will probably have been considered in the preproject process. If unknown, it may be constituted as part of the definition process.

3.9.9 Organization

See Organization and People Management Guide for a detailed discussion on organizations.

There is a distinction between line organization and project organization (see also "Management System" in topic 3.9.13).

The management system of the enterprise might not, without modification, be adequate to drive a large project to the full achievement of its objectives. This point is repeated because of its importance and because a large proportion of project problems arise from failures in this area. It is sometimes difficult to create a project organization in an enterprise that is conservative or resistant to innovation. Such difficulty is a clear sign of impending project failure unless it is overcome, for the reactivity or responsiveness of the

normal management organization is too low or slow to support the project timescales and pressures. The whole reason for the project is that is it something that cannot be done within the normal management system. You must ensure:

- The need for a project management system and a suitable organization is recognized and understood
- The project management system is set up and used properly
- There are no gaps. A common mistake is that one department, critical to the project, is not directly represented on the project.

The project organization may well be complex and must be addressed during definition. Later is too late. Project responsibilities will cross normal reporting lines in some kind of matrix. All the responsibilities, and all the reporting lines must be made plain. Don't hide organizational difficulties; something that is hidden can trip you up later.

You must allocate responsibility for subprojects. Subproject leaders or managers are the line managers with direct responsibility for achievement of all the project tasks: they make up the majority of the your management team, are important people, and must be identified.

A major project made up of a complex of subprojects needs a coordination and support function to carry out the administrative tasks. You must define this operation, called a Project Office, and describe its objectives, functions, and organization.

3.9.10 Liaison

This is liaison with other parts of the company. There will be many paths between the project and the outside world. They cannot all be formalized; human communication does not work like this. But major or structural links across the project boundaries and all dependencies and commitments must be defined.

For example, if a major project is to come to fruition at about the same time as the computer center moves to new accommodation, then a formal liaison between the two activities must be established. A separate subproject may be set up to manage the liaison.

3.9.11 External Services

You must specify the requirements for external functions and services such as computing requirements, screens, space, furnishing, travel, application development tools, and the service level the project expects for these external services.

3.9.12 Resource and Skill Requirements

The final detailed resource plans will emerge only from consolidation of the detailed subproject plans. At this stage there is an overall picture of resource and skill requirements, and of the resources available. During definition there will also be an outline schedule for subprojects that can be related to the resource availability. Planning for both of these will be pursued at the subproject level.

3.9.13 Management System

Although "Work Structure and Scope" and "Organization, Responsibility, and Resources" are major headings that you see - in some guise - in every variation in a project definition, "Management System" appears less often. Its omission is, in many cases, the cause of subsequent project problems.

The reason is not hard to find. In organizations, which are mainly process oriented, a management system will have developed that is appropriate to the nature of the main activity. The project is not part of this activity - its aim is to introduce a change. This change will probably be made in a tight timescale, may modify significantly the nature of the jobs done, or the mechanism for doing them, may even change the goals of the work and may affect a large number of people who are likely to have disparate views on the value of the project. This leads to a conclusion of major significance.

The current management system will not, without modification, be adequate to drive a large project to the full achievement of its objectives, and the successful implementation of all proposed changes. A management system suited to the project and the environment must be created.

The following topics relate largely to the mechanisms that will be used for tracking and control purposes within the project.

The major units of work are established in a top-down fashion within the definition process, with a corresponding breakdown into tasks. The detailed task planning is carried out on a subproject basis. Most organizations embarking on major projects will have, for example, estimating guidelines available. You should collect data for the periodic calibration of the basis of the estimate. You should ensure that a monitoring process is used to apply guidelines, ensure consistency, and adherence to standards. Such processes should be defined.

How will the project management function be implemented? How will you do your job? What is expected from the immediate subordinates in the hierarchy, and therefore how must their work be structured? There is opportunity for great variation here and the organizational style of the enterprise will have a great effect on the methods that are employed.

The coordination of the work of subprojects the movement of resources between subprojects, the confirmation of milestones and checkpoints, and the creation of the first overall schedule must clearly be done at the top level of the project.

The implementation of achievement tracking assessment and reporting varies greatly between organizations. It shouldn't because the basis is very simple and could be common to almost all projects - this is simply the recording measuring and reporting at weekly intervals of work done against work planned. Depending on the complexity and organization of the project it is normal to have weekly review meetings and to pass the consolidated information to the next level of the hierarchy. The process should be defined. You should:

- Explore and rectify delays or slow progress immediately
- Minimize the time spent in meetings

- Recognize successful work.

For achievement reporting it is vital to ensure that the information passed up the management line is appropriate in structure and detail. The information must be directed at helping managers do their job - superiors should not be submerged in detail. You should define a reporting system to suit the project and the enterprise. In principle the achievement reporting should match the degree of delegation that is customary. Further, the reporting system should not be used to hide bad news. Such information is bound to leak eventually - it is better to confront it when there is time for corrective action to be taken.

3.9.13.1 Problems, Issues, and Change

Problems, issues, and change management are separate topics. They are of paramount importance and project definition devotes great emphasis to these processes.

All projects have problems. A mechanism must be set up to record all problems, and their disposition. The Project Office will probably be responsible for maintenance of the log, and management is responsible for the prompt dispatch of the problem. A problem review, at intervals of no more than a week, is mandatory.

Some problems cannot be solved within your span of control. Such problems are usually called issues. They are serious. They may have a severe impact on the project and must be handled speedily. The process for managing issues, through the Project Sponsor or other executive, should be defined. It is important that this is understood because the resolution of an issue may need the intervention of a very senior executive at short notice. The review board is not an appropriate mechanism for issue resolution - it will meet too infrequently.

All projects suffer changes, to objectives, specifications, and resources. The process and procedures for change management, controlled administratively by the project office, should be defined.

3.9.13.2 Milestone Management

This will be one of the key management processes upon which you and your Project Sponsor rely directly. The processes should be defined to ensure that the contributory data is as honest and accurate as possible, that the relevant information is summarized as tightly as possible, and that for all problems that may inhibit achievement of a milestone, a corrective course of action is defined.

Each organization has its own standards and techniques for quality assurance and for assessing the conformity of products to requirements and standards. in the case of a major project, you should consider that there may be new factors or influences which demand special treatment from the assurance point of view.

3.9.14 Quality

If there is a separate quality plan or standard, your project will need defined tasks to conform with such a standard. Refer to the Quality Management Guide for information on the quality plan and guidance in preparing a plan.

3.10 Risks, Assumptions, and Dependencies

3.10.1 Environment

In every project environment there exists a variety of factors that can affect the project, and over which the project team has little or no direct control. Some of these may be beneficial, some adverse. It is not possible to provide a comprehensive list in this document that would be necessary and sufficient in all contexts, but some factors that might seriously affect a project are included. The list is illustrative. During the definition process it is necessary to consider all the possible influences that may be relevant and to explore their possible effects.

These factors include:

- Relevant aspects of the enterprise's:
  - Industry
  - Strategic goals and plans
  - Policies and practices.
- Benefit to enterprise and key suppliers
- Relevant experience of enterprise and key suppliers
- Parallel activities or projects
- Visibility of project
- Culture of enterprise
- Business relationships between the enterprise and key suppliers
- Legal, regulatory, and audit constraints.

3.10.2 Assumptions

In all projects, assumptions are made about general or environmental factors that the project cannot control directly but that might, particularly if an adverse change occurs, affect the progress or outcome. Such major assumptions, or those in which a change may reasonably be anticipated, should be stated in the PDR. For example, in a fast-changing environment, it might be reasonable to include an assumption that the enterprise will maintain the strategic direction that justifies the project. If the project depends on staged funding, that is agreed in principle but may itself be dependent on external factors, it is reasonable to state the assumption that the funds will be provided at the times agreed during project justification.

Use your judgement to determine when an assumption becomes a risk. For example, the commissioning of a new computer centre may be pertinent to the project, and the availability of the centre is an assumption. An alternative approach would be to treat delay to the computer centre as a risk and to develop a containment strategy.

3.10.3 Risks

Some of the environmental factors will reduce the chance of project success and constitute a risk to the project. You must assess such risks and, in cases where the risk is significant, develop a containment strategy. During project definition it is helpful to be as specific as possible in the analysis of each risk and in the creation of containment plans. There are times when it may be embarrassing to be specific - when personal or political questions arise. There is no general answer to this - use your judgement but don't try to hide something that could be important.

3.11 Project Definition Summary

Project definition should be carried out as soon as possible after the decision to go ahead has been made, but before significant detailed work has been done. All projects and organizations are different, but they have one factor in common - they are operating in the real world of deadlines, constraints and human beings.

As a result no project definition will achieve perfection or even approach it. But all projects can benefit from a brief planning stage in which the senior managers involved are able to debate honestly the answers to a few basic questions: What are we doing, why, how, with whom, to whom, and when? At its simplest, project definition is the process that helps to provide the answers to these questions and to form a basis on which the project can be built. The fundamental criterion for project success is good management - in all senses and at all levels. No project processes, however good, can replace this; indeed, they will probably flow from it. If the management team is skilled, can lead and motivate, is willing to take responsibility, can take good decisions promptly and is committed to the project, and is working in an appropriate environment, then it has a good chance of success.

Project definition is not a panacea for all project problems. However, a project has a very much better chance of success if its Project Sponsor, Project Manager, and project team have an approved, agreed, commonly understood basis for moving the project forward.

A Appendix A. Project Definition Report Template

Note: This template contains suggested headings and text for the PDR. Replace the text in brackets with information from the project.

Subtopics

A.1 Title
A.2 Preface
A.3 Management Summary
A.4 Introduction
A.5 Goals and Objectives
A.6 Work Structure and Scope
A.7 Organization, Responsibility, and Resources
A.8 Management System
A.9 Risks, Assumptions, and Dependencies
A.10 Additional Sections as Necessary

A.1 Title

The title of the PDR should include the title or code name of the project.

A.2 Preface

The purpose of this Project Definition Report is to provide a permanent, up-to-date, readily available definition of the project. It is:

- A single document summarizing the project
- A high level executive document
- A basis for management decisions
- A confirmation of the feasibility of the project.

It is used:

- As an aid to communication both within and outside the project
- To confirm the commitment of the sponsoring executive to the project
- As a definitive statement of the project scope
- As a basis for detailed planning.

A.3 Management Summary

A.4 Introduction

A.5 Goals and Objectives

A.5.1 Goals to Which the Project Is Contributing

1. (Goal 1)

A.5.2 Objectives

1. (Business Objective 1)
2. (Technical Objective 1)

A.6 Work Structure and Scope

A.6.1 Scope

The project encompasses:

- (In-scope item)

The following are excluded:

- (Out-scope item)

A.6.2 Start and End Points

Start	End
(start point 1)	(end point 1)
(start point 2)	(end point 2)

A.6.3 Subprojects

A.6.3.1 (Name of subproject 1)
Subproject Manager (Name)

Summary Objectives
(One or two sentences describing the subproject)

Outline Scope of Work
(Brief description of scope)

Key Deliverables

- (Subproject deliverable 1)

A.6.4 Major Milestones

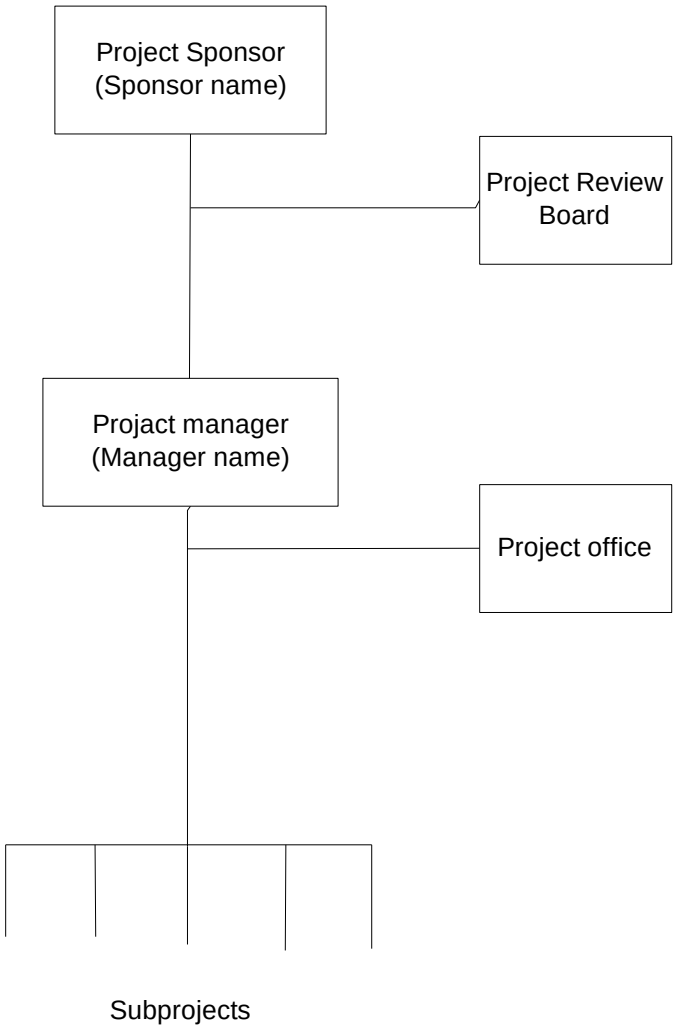
Target Date	Milestone
(Date 1)	(milestone 1)

A.6.5 Major Project Deliverables

- (Deliverable 1)

A.7 Organization, Responsibility, and Resources

A.7.1 Project Organization



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A.7.2 Key Project Members

Project Sponsor (name)

- Owner of the project
- Delivers benefits
- Approves definition and plans
- Ultimate escalation.

Project Manager (name)

- Achieves objectives
- Owns plans and controls
- Day-to-day management of overall project.

Project review board Members names

- Assists Project Sponsor to manage the project
- Makes resources available
- Represents other parts of the organization.

Project assurance board Members names

- Validates project processes and deliverables.

Project Office (name)

- Support to the Project Manager
- Custodian of project plans
- Runs control systems.

Subproject Managers See subproject definitions

- Achieves subproject objectives
- Owns subproject plans
- Day-to-day management of subproject.

A.7.3 Preliminary Resource Plan

Resource	Quantity	Start	End
Resource(1)	Quantity(1)	Start(1)	End(1)
Resource(2)	Quantity(2)	Start(2)	End(2)

A.7.4 Preliminary Budget

A.8 Management System

A.8.1 Planning

Project plans will be developed at the subproject and overall project level. The Project Office will maintain all plans taking input from the Project Manager and Subproject Managers.

A.8.2 Progress Measurement

The Project Manager will report progress against the project plan to the Project Sponsor at monthly intervals.

Subproject Managers will report progress to the Project Manager weekly.

The Project Office will manage this process

A.8.3 Checkpoints

The overall project plan will identify a number of checkpoints at which major reviews will take place. Checkpoints will include the following:

- (checkpoint 1)

A.8.4 Issues and Changes

Issues will be managed by a documented process which can be run by the Project Office. Issues will be reviewed at regular progress meetings.

Changes will be managed by a documented process which can be run by the Project Office. This will ensure that appropriate authority to make changes to deliverables or plans is gained.

A.8.5 Reviews and Reporting

The following reviews will take place:

- Sponsor review: weekly between Project Sponsor and Project Manager (specify whether formal report)
- Project review board: monthly, attended by Project Manager (specify whether formal report)
- Project review: fortnightly, Project Manager and subproject managers (specify whether formal report)
- Subproject reviews: as appropriate (specify whether formal report).

A.9 Risks, Assumptions, and Dependencies

A.9.1 Risk Assessment

(Risk 1)

Cost (Cost if risk occurs)

Probability (Chance of risk occurring)

Action (Action(s) against risk)

A.9.2 Assumptions

A.9.3 Dependencies

A.10 Additional Sections as Necessary

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Readers Comments

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Overall, how satisfied are you with the information in this book?

Legend:
1 Very satisfied
2 Satisfied
3 Neutral
4 Dissatisfied
5 Very dissatisfied

	1	2	3	4	5
Overall satisfaction					

How satisfied are you about the information this book contains:

	1	2	3	4	5
Accurate					
Complete					
Easy to find					
Easy to understand					
Well organized					
Applicable to your task					

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