UNIVERSITY OF
TECHNOLOGY SYDNEY

HUMAN RESOURCES UNIT

UTS:

PM@UTS PROGRAM
GUIDE TO PROJECT MANAGEMENT

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PM@UTS LEARNING PROGRAM

Project management is a highly demanding and complex task that requires organisational skills, the ability to respond to the unexpected, and the ability to monitor progress and change course as needed. Even when you have been given a project with very explicit responsibilities and expectations, it is essential to make sure that you are preparing to solve the right problem, or to meet the underlying need. The expectations can be clear, but still not go to the heart of the issue.

Project Management @ UTS Learning Program

The PM@UTS Learning Program focuses on the development of employee skills and knowledge through workshops and access to just-in-time resources provided through the UTS Projects website.

The PM@UTS Learning Program aims to provide staff at UTS with the necessary skills and techniques to effectively and productively manage small to medium projects and to work effectively in project teams. The PM@UTS Learning Program is based on the generic four-phase project life-cycle model and includes modules in:

- Introduction to Project Management
- Project Initiation
- Project Planning
- Project Implementation
- Project Evaluation and Closure

Other relevant Learning and Development workshops

- Fostering Teamwork
- Negotiation Skills
- Building Productive Relationships

The pathway through the model is flexible, allowing individuals to design a program to suit their individual needs.

INTRODUCTION TO PROJECT MANAGEMENT

WHAT IS A PROJECT?

The Project Management Institute (USA) in the Guide to the Project Management Body of Knowledge (PMBOK) defines a project as *"A temporary endeavour undertaken to create a unique product or service"*. (PMI 2000) Typically a project is a one-time effort to accomplish an explicit objective by a specific time. Unlike an organisation's ongoing operations, a project must eventually come to a conclusion. (Greer 2001)

Projects are undertaken at all levels of the organisation. They may involve a single person or many people. Their duration may range from a few weeks to more than five years. Projects may involve a single unit of one organisation or may cut across organisational boundaries. Projects are critical to the success of organisations today as they are the means by which organisational strategies and changes are implemented.

Examples include:

- Developing a new product or service
- Effecting a change in structure, staffing or style of an organisation
- Designing a new transportation vehicle
- Developing or acquiring a new or modified information system
- Constructing a building or facility
- Implementing a new business procedure or process
- Organising a Conference

Characteristics of Projects

It is generally accepted that all projects have the following characteristics:

- Has a lifecycle (i.e. phases)
- Have a defined timescale (specified start and end date)
- Specific objectives
- Time and cost constraints
- Approved budget
- Limited resources
- Definable tasks
- Deliverables (specific end result)
- Unique set of activities (do not involve repetitive processes)
- Involve an element of risk
- Achieve beneficial change

WHAT IS PROJECT MANAGEMENT?

The Project Management Institute (USA) in the Guide to the Project Management Body of Knowledge (PMBOK), define project management as *"the application of knowledge, skills, tools and techniques to project activities to meet project requirements"* (PMI 2000).

A systematic approach to the management of projects, regardless of size, duration and complexity, helps the project manager to apply a degree of structure to the project, to manage the inherent risks and to achieve successful completion of the project.

Project management has the following benefits:

- It ensures that the product which the project is to deliver is clearly defined and understood by all parties
- It enables the objectives of the project to be clearly defined and closely aligned to the business objectives of the organisation
- It promotes a logical approach to planning and encourages more accurate estimating of time, cost and other resources
- It provides a consistent means to monitor and control.

PROJECT TYPOLOGIES

Projects can be categorised according to how well defined the goals are and the methods for achieving those goals. This categorisation leads to four types of projects. By understanding what type of project you are embarking on, you can adopt an appropriate process to initiate your project.

The following Goals and Methods Matrix was developed by Turner and Cochrane (Turner 1993) and is a useful method for identifying different types of projects.
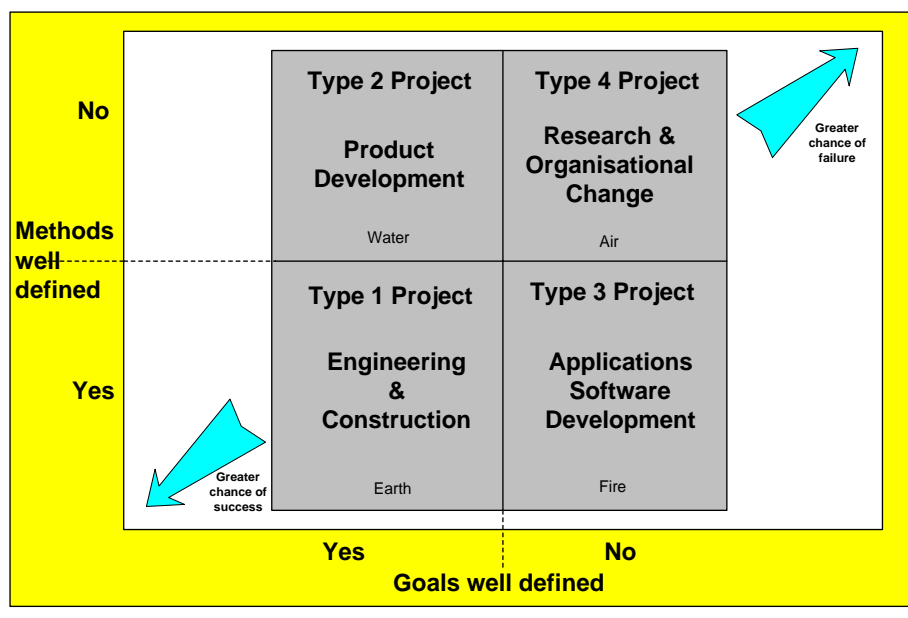
Type 1

- Goals and methods are well defined at the beginning (eg engineering projects)
- Possible to move quickly into planning the work to be done
- Emphasis is on activity-based planning
- *Earth Projects as they are well defined with a solid foundation*

Type 2

- Goals are initially well defined, but the methods of achieving them are not (eg product development projects)
- Functionality of the product is known but how it will be achieved is not known
- Point of the project is to determine how to achieve the goals
- Not possible to plan activities because the project will determine them
- Milestone planning is used where the milestones represent components of the product to be delivered
- *Water Projects as they are like a turbulent stream. They flow with a sense of purpose, but in an apparently haphazard way.*

Type 3

- Goals are not well defined initially, but the methods are known (eg some software development or information systems projects)
- Difficult to specify the users requirements as the goals are known to exist but cannot be specified precisely until the users begin to see what can be produced
- Milestone planning is used where the milestones represent the completion of life-cycle stages
- *Fire Projects as much heat can be generated in the definition of the work, but they can burn with no apparent purpose*

Type 4

- The goals and the methods of achieving them are poorly defined (eg research and development projects, some organisational change projects)
- Planning may use soft systems methodologies
- Milestone planning is used where the milestones represent gateways, go/no-go decision points
- *Air Projects as they are very difficult to catch hold of and deliver "blue-sky" research objectives*

(Turner 1999)

PROJECT LIFECYCLE

The project lifecycle is the process by which the project is undertaken. Each project has a definite start and finish and goes through several life-cycle phases. Understanding the phases that a project passes through and the requirements of each phase provides a useful framework for the Project Manager. There is widespread agreement in the project management literature that there is a 4-phase and basically sequential generic Project Life Cycle. This 4-phase model is most appropriate for Type 1 projects. More phases may be required for Type 2, 3, or 4 projects. The generic four-phase model shown below is the one that has been adopted for the PM@UTS Learning Program.
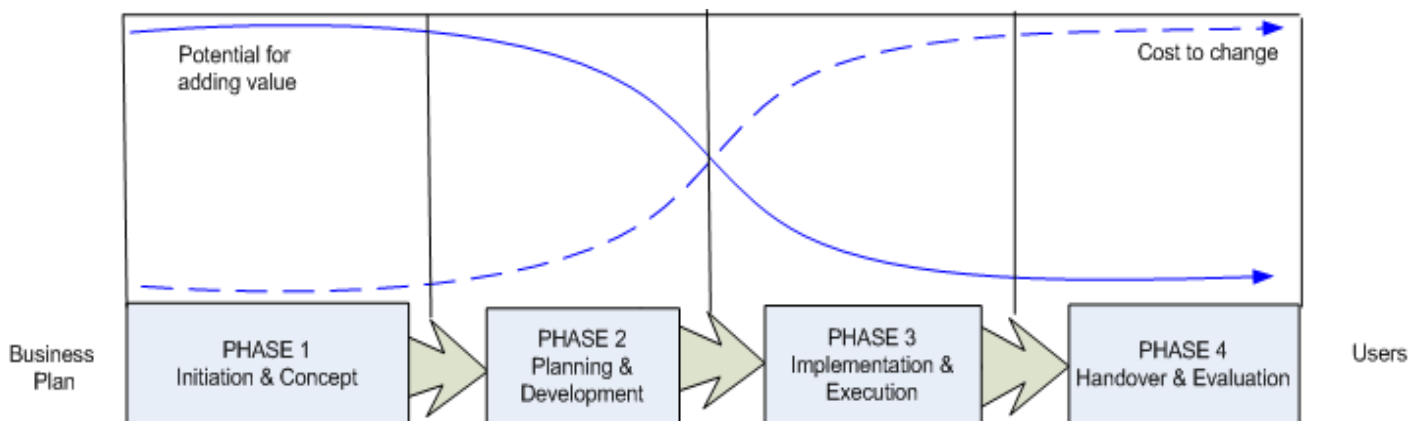
In many of the projects undertaken at UTS, the Initiation & Concept phase is undertaken in two parts. A senior manager in the relevant work unit completes a preliminary phase where the project purpose and justification is determined. Once this has been approved, a staff member is assigned the role of Project Manager and an official file is created. The Project Manager then continues the initiation & concept phase.

Overview of each phase

Initiation and Concept: Preliminary Phase

- Determine Project purpose/need
    - Feasibility
    - Source
    - Priority
- Explain background and Strategic Context
- Determine Priority and other related/dependent Projects
- Determine ethical considerations
- Identify and evaluate alternatives
- Make recommendations
⇒ Prepare Project Purpose & Justification and submit for approval

Initiation and Concept: Continuation Phase

- Assign the Project Manager and create an official file
- Undertake Stakeholder Analysis
    - Identify stakeholders
    - Analyse stakeholders needs
- Determine broad scope
    - Inclusions, Exclusions, Assumptions, Constraints
    - Outstanding issues to be resolved
    - Deliverables
- Establish project objective(s)
- Determine project governance
    - Organisation structure
    - Delegations
    - Roles and responsibilities
- Determine preliminary timeframes (milestones)
- Determine preliminary cost estimates
- Undertake preliminary risk assessment
⇒ Prepare project proposal and submit for approval

Remember, detailed planning requires increased commitment of resources. Therefore there is a logical GO-NO GO decision at the end of the Initiation Phase before the commencement of the Planning Phase and likewise at the end of the Planning phase before implementation commences.

Planning and Development Phase

- Define scope *(WBS)*
- Develop Risk Management Plan
- Develop schedule
- Identify and plan resources
- Determine costs
- Develop Communications Plan
- Develop Handover Plan
- Determine Project Controls
    - Tracking Procedure
    - Variance Management Procedure
    - Issues/Risk log
    - Reporting requirements
- Develop Quality Management Plan (optional)
- Develop Procurement Plan (Optional)
⇒ Prepare Project Plan and submit for approval

Implementation Phase

During this phase the Project Manager ensures that the approved project plan is converted into reality and that the objectives are achieved.

- Execute the project plan
- Monitor and control variations to
    - o Scope
    - o Schedule
    - o Cost
    - o Quality
    - o Issues/Risks
    - o Handover Plan
- Manage stakeholders and communications
- Report performance (Status Reports)
⇒ Prepare variance requests and status reports as required

Handover and Evaluation Phase

The purpose of this phase is to integrate the outcome of the project into the organisation's normal and ongoing operations.

- Undertake Administrative Closeout
- Implement Handover Plan
- Undertake Post-Project Review (including lessons-learned)
- Undertake Business-Benefits (Post-implementation) Review
- Celebrate
⇒ Prepare Handover Report and Project Completion Report and submit for approval

PROJECT RECORDS MANAGEMENT

http://www.records.uts.edu.au/procedures/projects.html

In conjunction with University Records, the following procedures have been developed to assist in the capture of project records. It is the responsibility of the project manager to ensure that all records are captured in the formal records management system.

The capture of project records:

- ensures accountability through the documentation of stages, variations and approvals
- allows for ready access to critical information during the project, such as risk mitigation strategies, and
- provides an important resource for future projects.

Creating project files

Creation of required project files should be undertaken in accordance with the standard procedures for Creating and managing files.

The size of the project run by your area will determine how the files are set up to support it. The following guidelines should be considered.

- An official file for the project should be created as early as possible (preferably at the initiation stage).
- A small project may only need one file.

- A large project may require separate files for functions such as finance, staffing, project stages, data collection, etc. Usually, the main file will be created at the commencement of the project, with others created as required.
- If something goes wrong with a project and legal issues arise, a separate file should be created to deal with such issues.
- A failed project bid should still be filed. It may be useful in future if the project is revisited.
- Confidentiality of documentation should be maintained. In some projects there may be documents that are commercial-in-confidence. The file should be marked with an appropriate security level and should not be accessible to unauthorised persons.

Project files should be titled using the UTS File Classification System. As all areas of UTS are at some time involved in projects, file titling can cover a vast range of keywords. A project file should be placed under the keyword that most appropriately explains the function the project is supporting, for example:

- FACILITIES MANAGEMENT: for projects relating to building works and refurbishments
- STUDENT: for projects relating to the management of students
- INFORMATION TECHNOLOGY & TELECOMMUNICATIONS: for projects relating to implementation of IT or other telecommunications systems.

For large projects with multiple files, not all files may be under the same keyword. A project may have a contracting file or a financial management file, or even a risk management file. To ensure all files are able to be located, place the project name in each file's title.

Filing of project documents

Project documentation should be managed in accordance with the standard procedures for Creating and managing documents.

Documentation on the following issues and activities should be captured in the project files:

- official correspondence, including email correspondence
- minutes and papers of project meetings
- stakeholder contact details
- project brief/proposal/approval
- change or variance requests/decisions made
- issues/risk log and mitigation strategies
- status reports
- procurement documents
- instructions, direction, advice issued, and file notes
- handover documents
- project diary (where applicable)
- contracts with any external organisations (see Dealing with contracts, agreements, and other vital records).
- if using MSProject or another program to manage your project, a copy of the initial plan and the final plan once the project is finished.

With projects, there are usually many versions of official documentation. Although general drafts of letters, etc., do not need to be filed, it is a good idea to file draft project proposals, etc. Version control on these documents is essential. To maintain version control, each document should include the name of the project, revision number, date of the revision, author, and where the electronic copy is kept.

Archiving and destruction of project records

Archiving and destruction of project records should be undertaken in accordance with the standard procedures for [Archiving records](#) and [Destroying records](#).

As with other official records, project files are to be retained for a specific length of time, depending on the documentation held within.

Retention requirements for project records are as follows:

- consultancy and contract records: a minimum of seven years after conditions of the contract are satisfied
- legal issues or case records: a minimum of 15 years
- research data: retention requirements range from five years to permanent, depending on the nature of the research
- Finance records:
    - if originals sent to FSU, destroy when reference ceases
    - if originals kept with in the unit, retain for six years after April of the following calendar year.
- general project records: should be retained in accordance with the function that the project records support.
- other records: see [How long should records be kept?](#).

Standard practice is to retain a file for the longest time frame required to cover all its contents. For example, if a project file was to be retained for five years, but had legal issues on the file also, it would have to be retained for 15 years (hence the requirement to have a separate file for legal matters).

For more information about managing projects records, contact your [Records Advisor](#).

INITIATION AND CONCEPT

INITIATING PROCESSES

Initiating the project means setting up the project from the idea or inception and making sure it is the right project, in the right place, at the right time, for the right purpose. Initiating processes for small projects or part of a larger project include:

- Clarification of the project purpose and justification
- Stakeholder - needs analysis
- Determination of the Broad Scope
- Establishment of clear and shared project objectives
- Establishment of project governance structures
- Documentation of this process as the Project Proposal

In some projects where all of the above have been clarified it is possible to continue straight on to planning the project. However it is important to check whether all the key stakeholders (i.e. Project Owner, Project Sponsor, Steering Committee and/or Project Board) are in agreement on all of the points listed above before proceeding to the planning stage.

Research indicates that most projects that fail have either skipped the project initiation phase altogether or have been through inadequate initiation processes. In many cases the more obvious objectives such as "on time" and "on budget" were emphasised at the expense of other more important and often not immediately apparent objectives (eg functionality or quality objectives).

The project is initiated or defined to determine its viability. Essentially, a GO/NO GO decision about its viability needs to be made by the end of the initiating process. For instance this might be a decision as to whether a sustainable commitment can be made to the necessary resources if the project is to proceed.

The steps for initiating the project will be presented in sequence; however, in reality this is an iterative process. You will find that in many cases you will need to go back through these steps several times until you have initiated or defined the project and have obtained a satisfactory level of agreement about the project objectives.

Agreement is essential. If agreement from all key stakeholders in all the areas listed above is not obtained the chance of failure is high. When issues are contentious the level of agreement sought might be agreement to carry on with the project in spite of residual disagreements about particular issues. This must be documented.

PROJECT PURPOSE AND JUSTIFICATION

It is always a risk to run a project that does not have a sound purpose and clear objectives. The justification and validity of the project needs to be confirmed before the project proceeds, otherwise the time, cost and quality of the project can be compromised. You clarify the purpose and justification with your Sponsor to establish the following:

- Justification of the project in relation to the organisation's strategic plans
- Priority of the project in relation to other projects that might be competing for funds or resources
- Line of authority (sign-off) regarding project expenditure
- Requirements for project reporting
- Escalation procedure if risks are triggered
- If there are any other related or dependent projects/ work being undertaken that might have an impact on your project
- If any decisions have already been made or any work has already been done in relation to your project

- If there are any ethical considerations
- The benefits that the Sponsor hopes to achieve by the project

STAKEHOLDER ANALYSIS

The success of a project often depends as much on the stakeholders and their perceptions as it does on the project manager and the real work. As projects are initiated in response to identified needs and opportunities in a specific environment or context, you need to identify the stakeholders early in the project.

A stakeholder is anyone who has a vested interest in the outcome of the project and who will judge the success or failure of the project, including:

- Client/Owner   the organisation whose strategic plan created the need for the project or the person who requires the project to be undertaken *(NB maybe the same person as the Project Sponsor)*
- Sponsor   the person who is providing the funds and has the ultimate authority over the project
- End-users   the people who will actually use the deliverables of the project
- Champion   a senior user who campaigns for the project
- Project Manager   person with the authority to manage the project
- Project team members   the group that is performing the work of the project

Identifying Stakeholders

To help you identify all the stakeholders in a project, talk to your Sponsor in the first instance to get an initial list of stakeholders. Use the following to assist you in identifying who should be included:

- Who are you doing the project for?
- What functions or people might be affected by the project's activities or outcomes?
- Who do you report to?
- Who authorises expenditure?
- Who contributes resources (people, space, time, tools and money) to the project?
- Who wants reports/updates?
- What is the risk to the project of omitting a particular stakeholder?

When you meet with each of the identified stakeholders, ask them who else should be involved. If the list is too long, classify the stakeholders into:

- Core: People actively involved in the project doing the work
- Primary: Stakeholders who must be engaged during the project
- Secondary: Stakeholders who should receive communications about the project.

Analysing Stakeholders Needs

Once you have identified and classified all the Stakeholders, ask them to spell out exactly what success of the project means for them. Remember that as their interests vary, their needs are likely to differ.   For each of the identified Stakeholders, ask the following questions:

- What do they want/need/expect?
- What criteria will they use to judge project success?
    - What will make the project a success for them?
- What stake do they have in the project? (I.e. how engaged are they in the project?)

How do you find out what Stakeholders need?

- Ask them (Face to face, email, telephone, memo, exception ask)
- Use personal knowledge (*It is dangerous to assume that you know what is in other people's heads so it is better to check with the person.*)
- Get information from others: Delegate the task of finding out the needs to Managers/Supervisors (*NOTE: This is also dangerous and needs to be managed. You need to be very specific about responsibilities, deadlines, and quality of information*)

⇒ Make sure that you confirm the needs you have identified with each of the Stakeholders/ Stakeholder groups.

USER REQUIREMENTS

(This step may not be needed if your project requirements are clear and straightforward)

The user requirements of the project must be defined and documented. Approval and confirmation must be obtained before the project can proceed. To obtain agreement about needs:

- Separate needs from wants
- Group the needs that are similar
- Prioritise needs (eg essential, nice to have)
- Identify any conflicting needs
- Negotiate agreement between stakeholders with conflicting needs

This process often requires a number of meetings with stakeholders. Stakeholders often express their needs in terms of a particular product or solution to the problem, which has created the need for the project in the first place. It is important to re-state the agreed needs in terms of "what the end product/service(s) of the project should do".

Stating the agreed needs in functional terms permits the project manager to offer a range of solutions to the client or key stakeholders. If the project outcomes are restricted to solutions offered by key stakeholders too early in the analysis process important alternative options might be overlooked. Document the final set of agreed requirements and obtain sign-off from all key stakeholders.

PROJECT GOVERNANCE

Project governance refers to the system of decision-making and management that has been established for a particular project. For some projects an elaborate decision-making and governance structure will be in place from the beginning while for others, the governance structure will need to be established.

Effective governance ensures that:

- The project lifecycle is managed and the benefits are realised
- The outcomes are aligned with business needs, balanced against the desires for interested parties
- Risk profiles are managed to acceptable levels
- Project deliverables meet the planned timelines, cost and quality
- The scope and milestones for go/no-go are managed
- The organisation has the capacity and capability to utilise the delivered outcomes
- Appropriate project management methodologies are used
- Variations are approved

Determining Governance Structure

When determining the governance structure for your project, ask the following:

- Who is ultimately responsible for the project?
- Who is accountable?
- Who has the authority to sign-off?
- What committees/boards do you need to negotiate with? In what order? What do they need to know? What are the limits of their authority/responsibility?
- To whom can you escalate the project if a quick decision is needed?

Project Organisation Charts

Organisation charts are useful tools to show the relationship of people and structures, which govern and influence the project. A project organisation chart can be used to define:

- Reporting relationships and responsibilities
- Connections between groups affecting the project
- Project political structures

Example of a Project Organisation Structure
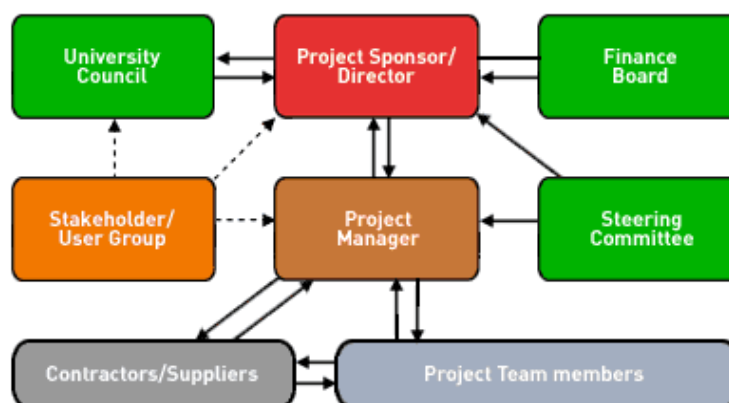
(Remington 2002)

Key Governance Roles and Responsibilities

Project Client/Owner

- The person who requires the project to be undertaken
- Accountable for the overall success of the project
⇒ *Maybe the same person as the Project Sponsor*

Project Sponsor/Project Director/Project Board/Steering Committee

- Senior management of the Project
- Accountable for the successful delivery of the project
- Has authority to commit resources
- Ensures the project is addressing a genuine business need and that the project solution is consistent with that need
- Ensures assumptions, constraints and expectations remain valid and relevant
- Champions the cause of the project
- Makes decisions about the Project
- Provides guidance and support to the Project Manager
- Resolves issues escalated by the Project Manager
- Accountable for the funds allocated to the project
⇒ *The Project Sponsor is usually a senior manager from the work unit in which the project is taking place.*
⇒ *The Project Board usually includes representatives from all the significant stakeholder groups*

Project Manager

- Responsible for the day-to-day running of the project within defined authorities for cost and schedule
- Develops and maintains the project plan
- Ensures project deliverables are provided to scope, time, budget and quality
- Manages project resources
- Manages stakeholder communication and project reporting

Manager of the Project Manager

- The operational or line manager who the Project Manager reports to on a day-to-day basis

Project Team Members

- The staff who will be doing the actual work

Reference Group or Working Party

- Provides advice and recommendations
⇒ *Does not have the authority to make decision*

Roles, responsibilities and authority must be negotiated and understood by all stakeholders.

MANAGING EXPECTATIONS

"Stakeholders represent the lifeblood of a project. The perceptions of your stakeholders strongly influence the status of your project. If the stakeholders are feeling confident in the project purpose and status and their expectations for the project's impact on the organisation are uniform, the project is probably in good shape. Should any stakeholders have issues about the intent of the project, or should the stakeholders be out of sync regarding the priorities for project deliverables, the overall status of the project could be in jeopardy."
(McGannon 2005)

Successful management of your project depends upon how well you manage the relationship of the people and structures that govern and influence your project. It is not uncommon in projects for influential stakeholder groups to assume control beyond their level of designated authority, resulting in negative consequences for the governance of the project. It is also not uncommon for key stakeholders to change during the project and for existing stakeholders to change their minds about important issues. You will not be able to prevent this but it must be managed. Managing expectations requires constant communication with key stakeholders to ensure that there are no nasty surprises.

BROAD SCOPE

The scope is **what** the project contains or delivers (i.e. the products or services). When starting to plan the scope of the project think about the **BIG PICTURE** first! At this level it is best to concentrate on the major deliverables and not to get bogged down with detail.

It is just as important to agree on what is OUT OF SCOPE as it is to define what is IN SCOPE as stakeholders will often have different ideas regarding what is supposed to be IN the project and what IS NOT. Obtain agreement up front to avoid unnecessary disputes later on. This is a useful task to conduct with key stakeholders and can help clarify issues at any time in the Initiation or Planning phases. Generally speaking assumptions and constraints will generate risks to the project that must be managed. Examples of areas that could be examined and clarified include:

- The type of deliverables that are in scope and out of scope
- The major life-cycle processes that are in scope and out of scope
- The types of data that are in scope and out of scope
- The data sources that are in scope or out of scope
- The organisations that are in scope and out of scope
- The major functionality that is in scope and out of scope

During this process issues may not be resolved to the agreement of all key stakeholders at one meeting. Any unresolved issues should be noted at the end of the document for elevation to top priority for discussion at subsequent meetings until resolution is achieved.

PROJECT OBJECTIVES

The success of your project will be defined by how well you meet your objectives. The more explicitly you state your objectives at the outset, the less disagreement there will be at the end about whether you have met them. Remember that at this early stage of the project, there are still many "unknown factors". Be prepared to revise your objectives as you gather more information about what you need to achieve.

In project management we are constantly juggling time, cost and quality and we refer to the relationship between time, cost and quality as the TCQ triangle or the triple constraint *(also known as the Sanity Triangle)*. If you change one, it has an effect on the other three. For example: If you shorten the amount of <u>time</u> you have to complete the project, you must either increase the cost or lower the quality.

TIME

Scope
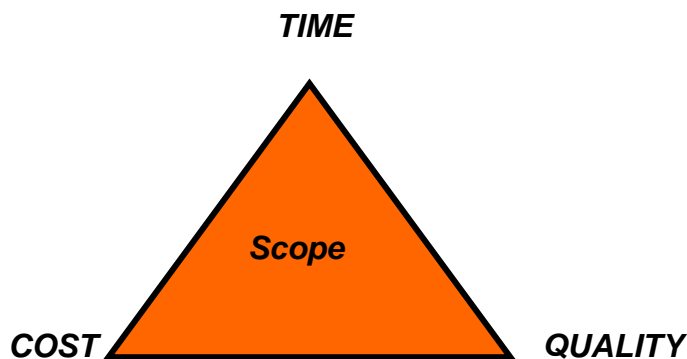
COST   **QUALITY**

Generally speaking there is only one objective related to time (one required completion date) and one objective related to cost (one agreed budget objective) but there might be several objectives relating to quality or functionality.
(Remington 2002)

Writing Project Objectives

Project objectives are concrete statements that describe what the project is trying to achieve. Objectives should be developed for time, cost, quality (or functionality) and should:

- Be aligned to business objectives
- Be measurable
- Be achievable
- Be consistent
- Be readily understandable
- Be few in number
- Have the full support and commitment of senior management, key stakeholders, project sponsor and users

A well-worded objective is **SMART**

Specific
- *States exactly what the project is to accomplish*
- *Phrased using action words (such as "design", "build", "implement")*
- *Limited to those essential elements of the project that communicate the purpose of the project and the outcome expected*

Measurable
- *If you can't measure it, you can't manage it*
- *In the broadest sense, the whole objective is a measure of the project; if the objective is accomplished, the project is a success*
- *Build several short-term or small measurements into the objective*
- *Watch out for words that can be misinterpreted such as improve, increase, reduce, customer satisfaction, etc.*

Agreed
- *Each objective has the full support and commitment of senior management, the project sponsor and users.*

Realistic
- *Considering all the other demands and projects in my life, is it doable?*
- *The learning curve is not a vertical slope*
- *The skills needed to do the work are available*
- *The project fits with the overall strategy and goals of the organisation*

Time-framed
- *Objectives must be achieved within a definite timescale/deadline*
- *Timescales should be set in consultation with the objective holder.*
- *To make an impact, timescales need to be set down in specific terms no matter how far distant they are.*

Some Project Managers say that the most effective project objective is between 25 and 50 words – if in doubt, check with your Project Sponsor.

Clarifying Objectives

Regardless of whether you have been provided with the objectives for your project or you have written them yourselves, you need to clarify them by asking the following:

- Are the objectives clear?
- What other questions need to be asked?
- Who would have the information?
- How will you best obtain the information you need to clarify the objectives?

Objective Examples

Develop a Project Management Guide based on the Project Management Body of Knowledge and National Competency Standards for Project Management by 15 July 2009 at a cost of $20,000.

Develop and implement the 2009 PM@UTS Learning Program in accordance with learning and development standards for a goods and services cost of $7,000. The Program is to be advertised by 28 February and fully implemented by 30 November 2009.

(In some cases a budget or time frame has not be assigned at this stage of the project so you must simply state that the "time frame and/or budgets are to be determined". These will be determined during the planning phase of the project.)

GENERATING AND EVALUATING OPTIONS

(This step may not be required if your project is well-defined)

Now that you have carefully defined the measurable objectives for your project it is time to explore a broad range of options for the delivery of your project. You might have to work through a range of options or different approaches to identify what the end product might be and who will deliver the project.

The range of options or alternative approaches available to you will depend upon what decisions have already been made by others with respect to the project. For instance the organisation might have existing supplier agreements, which will restrict what kind of equipment you will be able to use in the project, or there might be a limited range of suppliers. Budget restrictions might eliminate the possibility of using outside contractors to do the work.

Generating Options

When generating alternatives:

- Identify what has already been decided about the project
- Brainstorm/list all the possible options
- Use the big picture approach – consider
    - Not doing the project
    - Redefining it
    - Different forms of procurement
- Shortlist the options that meet the objectives for closer evaluation
    - Sort the options into positive, interesting and negative
- For each positive/interesting option, ask:
    - What will satisfy the needs?
    - How should it be delivered?
    - Who will deliver it?

Evaluation of Options/Alternatives

The options or alternatives for the delivery of the project should then be evaluated against the:

- project objectives, in terms of time, cost and quality
- risks involved
- extent to which the required scope of the project is addressed.
- the impact of the options or alternatives on the various stakeholders.

The process of evaluation of options will be more or less formal depending upon the nature of the project. Evaluation might simply require a round table discussion and agreement. In projects, which incur high risks to the organisation, a formal evaluation process must be adopted and carefully documented for approval by senior management.

In some cases estimates in terms of time and cost will be required from potential suppliers before evaluation of options can be completed. Time must be set aside to allow for these estimates to be obtained. The degree of accuracy of time and cost estimates will depend upon the amount and accuracy of information that can be given to suppliers. It may not be appropriate, at this stage in the project, to dedicate extensive resources to gathering the information required – this will result in a relatively low level of accuracy of the forthcoming estimates. As the project moves into the planning stage the level of accuracy can be successively refined.

PROJECT PROPOSAL

This is the end of the Initiation Process for the project as a whole. Your project should now be defined. That is, you should have reached agreement with your key stakeholders about:

- the project objectives (time, cost and quality or functionality)
- the exact nature of the product of the project
- who will deliver it
- constraints, assumptions and preliminary risks

Turner lists the objectives of the Project Proposal (or Project Definition Report) as being to:

- provide sufficient definition, including costs and benefits, to allow the business to commit resources to the next phase
- provide a basis for the next phase
- provide senior management with an overview of the project's priority alongside day-to-day operations and other projects
- communicate the project's requirements through the business
- define the commitment of the business to the project (Turner 1993)

You are now in a position to prepare a Project Proposal (also known as a brief, definition or charter). This document should contain the following information:
- Project Purpose
    - o Briefly describes why the project is being undertaken
- Background and Strategic Context
    - o Describes the background and context for the project, including how it relates to the key strategic plans
- Priority and other related projects
- Project Objectives
    - o Particularly scope/quality/performance/cost/time objectives
- Broad Scope including key deliverables
    - o In this section you clearly define the logical boundaries of your project. Scope statements are used to define what is within the boundaries of the project and what is outside those boundaries.
    - o Constraints and Assumptions
        - ▪ Project assumptions are knowledge about the project that is taken as being true or correct for the purpose of project planning. Assumptions are made to allow planning to proceed with limited information about certain elements that are vital to the management of the project. Assumptions must be tested prior to finalising the Project Plan.
        - ▪ Project constraints are known facts that will influence how the project is planned and managed. A constraint is a given factor that is outside of the project planner's scope of control, which unless it is lifted or otherwise removed, will force project actions to work around it.
    - o Deliverables
- Project Governance
- Key Stakeholders
- Preliminary Schedule (estimated timeframe/milestones
- Preliminary resources and cost estimates
- Preliminary Risk Assessment
    - o Project risks are characteristics, circumstances or features of the project environment that may have an adverse effect on the project or the quality of the deliverables.

TEMPLATE: PROJECT PURPOSE AND JUSTIFICATION

(The justification and validity of the project needs to be confirmed before the project proceeds. This document is used to clarify the project purpose and justification and to gain approval to proceed to the next phase.)

Project Title

(Working title)

Project Purpose

(Describe the purpose / need / rationale / feasibility for the project)

Background and Strategic Context

(Explain the background to the project and how it relates to the key strategic plans.)

Priority

Related Projects

Project Client/Owner

(The person who requires the project to be undertaken)

Project Sponsor

(The person who is providing the funds and has the ultimate authority over the project)

Project Manager

(The person who has the authority to manage the project on a day-to-day basis).

Project Status

(What has already been decided about the project? What decisions have already been made? What work has already been done in relation to the project? Any assumptions or constraints?)

Special Provisions

(Special regulations, ethical considerations etc.)

Project Approvals

Add any signatures that are required for approval to proceed to the next phase

_____   _____

Project Manager   Project Sponsor

_____   _____

Project Client/Owner   Other

TEMPLATE: STAKEHOLDER NEEDS ANALYSIS

Use this template to identify areas, groups or individuals affected by, or that may participate in the project. Include everyone who has a vested interest in the project. A useful question to ask when analysing stakeholder needs is "What will make this Project a success for you?"

Name	Work Area	Stakeholder Type (eg client, end-user)	Impact by/on project Requirements Success Criteria

TEMPLATE: BROAD SCOPE DEFINITION

The Broad Scope Definition template is a tool that can be used with key stakeholders to clearly define the logical boundaries of the project. Be sure to note any requirements that are OUT of scope to achieve absolute clarity about what is and is not covered by this project and to avoid the potential for problems later on.

In Scope *(These are items that you are definitely going to deliver / manage)*	**Out of Scope (Exclusions)** *(These are items that you are not responsible for – the assumption is that someone else will do them. Exclusions are things that don't form part of your project, but influence on whether or not you can successfully achieve your objective.)*	**Assumptions** *(Knowledge about the project that is taken as being true or correct for the purposes of project planning. Assumptions are circumstances and events that need to occur for the project to be successful, but are outside the total control of the project team)*	*Constraints* *(Known restrictions. These could include any restrictions in start/finish date, time, deliverable or milestone dates, budget limitations, resourcing limits, vendor restraints, etc.,*

Issues not resolved: *(issues about which agreement has not been reached or which are unclear and must be clarified and agreed before the project can proceed)*

TEMPLATE: PROJECT GOVERNANCE (ROLES & RESPONSIBILITIES)

It is important to understand who the major players are on the project. List the major project roles, responsibilities and the actual people involved. Add in any additional roles as required.

Role	Name/s	Responsibilities
Project Client/Owner (The person who requires the project to be undertaken)		
Project Sponsor/Project Director/Project Board (Senior management of the Project – accountable for the success of the project. Has the authority to commit resources.)		
Project Manager (Person responsible for running the project on a day-to-day basis within defined authorities for cost and schedule as agreed with the Project Sponsor/Board)		
Manager of the Project Manager (The operational/line manager who the Project Manager reports to on a day-to-day basis)		
Project Team Members (Staff who will be working on the Project)		
Reference Group/Steering Committee/Working Party (To provide advice and recommendations)		

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TEMPLATE: PROJECT PROPOSAL

The Project Proposal is the document that is produced at the end of the Initiation phase. The main purpose of this document is to provide sufficient definition, including costs and benefits to allow the business to commit resources to the next phase.

Project Title

Project Purpose

From Project Purpose and Justification – brief summary of **what** is being proposed

Background and Strategic Context

From Project Purpose and Justification – be concise but provide enough detail so that the reader will understand **why** this project is being proposed.

Priority

From Project Purpose and Justification

Other Related Projects

From Project Purpose and Justification

Project Objective

Clearly state the objective of the Project in concrete and measurable terms.

Scope including key deliverables

This section is where you clearly define the logical boundaries of your project. Be sure to note any requirements that are OUT of scope to achieve absolute clarity about what is and is not covered by this project and to avoid the potential for problems later on.

In Scope

List here the items that you are definitely going to deliver and/or manage.

Out of Scope

List here the items that you are not responsible for – the assumption is that someone else will do them. Exclusions are things that don't form part of your project, but influence on whether or not you can successfully achieve your objective.

Assumptions

List here any assumptions that have been about the project. Assumptions are circumstances and events that need to occur for the project to be successful, but are outside the total control of the project team.

Constraints

List here any constraints placed upon the Project. These could include any restrictions in start/finish date, time, deliverable or milestone dates, budget limitations, resourcing limits, vendor restraints, etc.,

Deliverables

Describe the deliverables of the project. Provide enough explanation and detail that the reader will be able to understand what is being produced. Make sure that the deliverables produced align with what is in-scope from the previous section.

Governance

(For each of the major project roles, list the responsibilities and the names of the actual people involved. Attach a project organisation chart if available**)**

Project Client/Owner

(The person who requires the project to be undertaken)

Project Sponsor

(Senior management of the Project – accountable for the success of the project. Has the authority to commit resources.)

Project Manager

(Person responsible for running the project on a day-to-day basis within defined authorities for cost and schedule as agreed with the Project Sponsor/Board)

Manager of the Project Manager

(The operational/line manager who the Project Manager reports to on a day-to-day basis)

Project Team Members

(Staff who will be working on the Project)

Reference Group/Steering Committee/Working Party

To provide advice and recommendations)

Key Stakeholders

In this section specify areas, groups or individuals affected by or that may participate in the project. Include everyone who has a vested interest in the project.

Preliminary Schedule

List the milestones for the project, together with the anticipated start and completion dates.

Item	Milestone Date	Responsibility

Preliminary Resource and Cost Plan

In this section show your preliminary costings, which have been broken down by major milestones, project phases or deliverables.

Deliverable/Milestone/Phase	Resource	Cost

Preliminary Project Risk Assessment

Outline the major risks that have been identified to date.

Risk	Level (high/Medium/Low)	Management Strategy

Attachments

Project Approvals

Add any signatures that are required for approval to proceed to the next phase

_____   _____

Project Manager   Project Sponsor

PLANNING PROCESSES

Once the project has been initiated and the objectives are clear the project can be planned. Detailed planning requires increased commitment of resources. Therefore there is a logical approval GO-NO GO decision at the end of the Initiation Phase before the commencement of the Planning Phase.

Scope, time, and resources/cost are the three major project-planning activities. Risk planning relates to all of these whilst quality, communications, procurement and handover planning activities facilitate implementation of the project.

PROJECT SCOPE DEFINITION

The scope is what the project contains or delivers. Many projects fail because a significant part of the work has been overlooked, or because the time and money required to complete it has been grossly underestimated. For example if you are building and installing a new database management system and forget to include time and cost of training new people in the new system, you are unlikely to meet all of your objectives.

When starting the plan the scope of the project, think about the BIG PICTURE first. Use the Broad Scope template completed during the Initiation Phase to help clarify exactly what it is that you are trying to achieve. The information generated can then be used in developing the work breakdown structure.

Work Breakdown Structure (WBS)

A work breakdown structure (WBS) is a hierarchical chart that helps you brainstorm activities that need to be completed for a project. The WBS is a tool that can help you develop estimates, assign staff, track progress and show the scope of the project work. This tool breaks up the work into small, manageable, measurable tasks.

To create a WBS:

- Ask: "What will have to be done in order to accomplish X?"
- Brainstorm the components of each activity to a level detailed enough for you to estimate how long it will take to complete each activity.
- Write the names of each of the major deliverables on post-it notes
    - one deliverable per note
- For each deliverable, list the activities that must take place in order to complete the deliverable
    - one activity per note
- Arrange the activities under the appropriate deliverable
- Continue to break the work down into activities and sub-activities until a level is reached that makes sense to the Project Manager
- When developing a WBS, an essential concern is when to stop subdividing the activities. As a general guide, stop when you reach the point at which the work will take an amount of time equal to the smallest unit of time you want to schedule.
- A WBS structure typically consists of three to six levels of subdivided activities. The more complex the project, the more levels it will have. As a general rule, no project should have more than 20 levels – and only an enormous project would have that many.

- Using the WBS at this early stage helps you to set the framework that you will fill in once you have a better sense of staffing, budget and time constraints.

⇒ *At this stage don't worry about the sequence in which the activities are performed – we will do that in the Scheduling phase.*

You may find that you are not comfortable thinking in a top-down fashion. Some people prefer brainstorming at a detailed level, with piles of Post-it notes, and then grouping them from the bottom up into a WBS. Others prefer to start in the middle and work both up and down. Whichever method fits your personal style is the right one for you to use.

⇒ *Remember to honour the needs of other team members to process in different ways.*

Examples of a Work Breakdown Structure

(Remington 2002)

```
                          ┌──────────────┐
                          │   Swimming   │
                          └──────┬───────┘
        ┌────────────────┬───────┴────────┬────────────────┐
   ┌────┴─────┐    ┌─────┴────┐     ┌──────┴───┐     ┌──────┴───┐
   │Landscape │    │ Dirt Work│     │ Concrete │     │ Plumbing │
   └────┬─────┘    └─────┬────┘     └──────┬───┘     └──────┬───┘
```

Landscape	Dirt Work	Concrete	Plumbing
Landscape Design	Excavate Hole	Build Forms	Build Pump House
Order/Receive Plants	Remove Dirt	Concrete Pour/Dry	Install Plumbing
Install Plants	Build Up Contours	Remove Forms	Install Pump
Build Wood Decks	Bring in Topsoil	Paint & Tile	Install Cleaning Equip.

(TenStep)

```
                     ┌──────────────────┐
                     │ Multimedia Project│
                     └─────────┬────────┘
          ┌──────────────┬─────┴──────┬───────────────┐
     ┌────┴───┐     ┌────┴───┐    ┌────┴─────┐
     │  Book  │     │   CD   │    │ Videotape│
     └────────┘     └────────┘    └──────────┘
```

Book	CD	Videotape
Writing	Writing	Writing
Publishing	Recording	Recording
Producing	Producing	Producing
Selling	Selling	Selling
Retail	Retail	Retail
Mail	Mail	Mail

(TenStep)

PROJECT SCHEDULE

The schedule allows the progress of the project to be assessed, communicated and coordinated and it identifies the key milestone dates to be met. Once you have identified all the activities that need to be completed (WBS), you need to determine the:

- Sequence of the activities (including logical relationships and/or dependencies between the activities)
- Duration of each activity
- Gantt Charts and Milestone Plans

Sequencing

You are now in a position to identify the order of the activities and the relationships that exist between each activity:

- Some tasks will occur independently of each other – no relationship
- Some tasks will start when others have finished – finish/start relationships
- Some tasks will start when other tasks have started – start/start relationship
- Some tasks will finish when other tasks have finished – finish/finish relationship

Simply arrange the sticky notes from the Work Breakdown Structure in order of sequence. Then draw arrows between the sticky notes to indicate the order of events and the dependencies.

⇒ *Involve the key stakeholders early in developing the initial schedule in order to gain agreement and "buy-in".*

Precedence Network

A precedence network diagram depicts the sequence of the activities from the WBS in a rough chronological order as well as the relationships and dependencies between the activities.

Use a precedence network when:

- You need to work out dependencies between tasks
- You need to determine resources – sharing and allocation of tasks
- You need to get commitment from a number of people who sill be working on the project
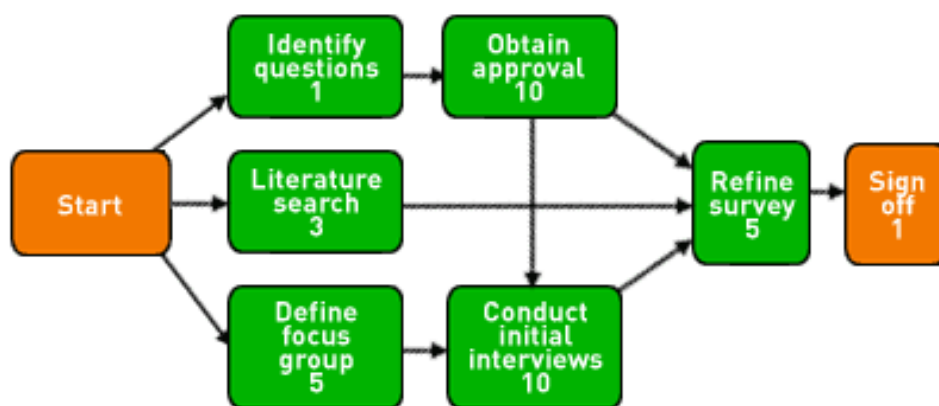
(Remington 2002)

Activity Duration Estimating

Once you have broken down and sequenced the activities, you can estimate the effort *(actual time required for one person to complete the activity)* required to complete each one. Then you can convert the effort to duration (or elapsed time) for each activity.

- Determine how many people will be assigned to each activity
- Determine how many productive hours per day a person is available to work on the project
- Calculate delays and lag times
- Determine any constraints

To determine the effort and duration:

- Use your own experience
- Ask others
- Apply rules of thumb/standards
- Availability of resources (Taking into account other work commitments/Leave)

Keep in mind the following:

- Estimates should be based on experience, using the average expected time to perform a task. The more familiar you are with a particular task, the more accurate your estimate will be.
- Estimates are just that – estimates. They are not guarantees, so don't let them be changed into firm commitments at this stage.
- When presenting estimates to Stakeholders, make sure they are aware of all the assumptions and variables built into them.
- Whilst padding your estimates is an acceptable way of reducing risk, it should be done openly and with full awareness of what you are doing.
- The result of this stage will be a rough estimate of how many people, and with what skills, you'll need for the project, as well as an educated guess about how long it will take.

Gantt Charts

A project manager needs to be able to manage a timeline and needs to know what activities should be happening at any given point in time. This calendar view is often represented with a chart called a bar chart or Gantt chart.

Gantt charts illustrate the duration and chronological order of phases. This is a useful tool for showing when each activity will start and should end and who is assigned to work on each activity. Gantt charts are most often used for simpler projects where there is not a strong dependency between activities.

Pros: simple to construct, easy to read, an effective way to communicate with team members what they need to do in a given time frame

Cons: difficult to assess the impact of a change in one area on the rest of the project.

Tips for building a Gantt chart:

- List activities/tasks, from first to last, down the left side of the page
- Add time scales across the bottom or top from the beginning to the deadline
- Draw blank rectangle for activity 1 from activity start date to estimated completion date

- Draw rectangles for each of the remaining activities; making sure that dependent activities start on or after the date that any earlier, dependent activities finish
- For independent activities, draw time-estimating rectangles according to preferences of people doing and supervising the work
- Adjust the phases time estimates as needed so that the entire project finishes on or before the deadline
- Add a milestone legend as appropriate
- Show the chart to Stakeholders and team members for feedback and
- Adjust as needed (Duffy 2001).

An example of a Gantt chart is shown below:
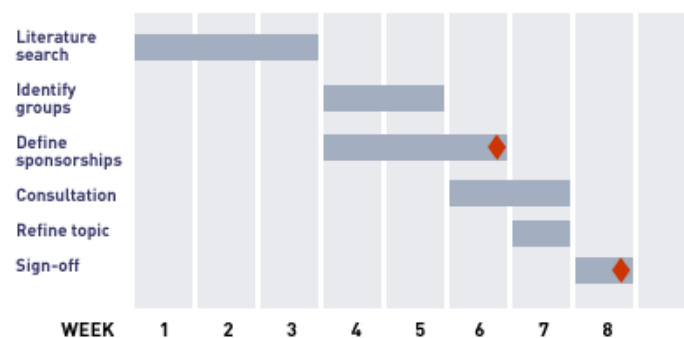
(Remington 2002)

Milestone Planning

This tool is used to indicate key dates. Milestones are either set for the project or established by the project team as dates to be met. Milestones indicate the key dates to be met during the execution of the project, such as a report to a board meeting, the completion of a project phase or when a deliverable is due.

Generally milestone plans are effective communication tools. They can be used to create a sense of urgency and to reinforce with key stakeholders and the project team the key dates in the program to be achieved.

⇒ *Milestone plans are not used as planning tools unless the project manager is extremely familiar with the type of project or the project is a "fuzzy" project, which must be planned step by step.*

An example of a Milestone Plan for a training session is shown below:

(Remington 2002)

Tips for Scheduling

- Know which deadlines are hard and fast and which are not
- Compare your projects to similar projects
- No task should last longer than 4-6 weeks
- Don't schedule more detail than you can actually oversee
- Develop schedules according to what is logically possible
- Record all time segments in the same increments
- Do not schedule a project so that overtime is needed to meet the original target dates. (Duffy 2001)

RESOURCES AND BUDGET

Human Resource Planning

When you started thinking about the effort in relation to the activities on your WBS, you were beginning to plan the human resource commitment for the project. Resources must be carefully planned to make sure that the people are available when needed to work on the project.

To determine the human resources you require, for each activity on the WBS:

- Determine the capabilities/skills and hours (effort) required
- List all the people who are part of the project team; list all the capabilities/skills that they have and the time they have available
- Go through the lists, have people talk about their own skill sets and let the group assign tasks during the discussion. OR, if you know everyone well enough, make the assignments yourself.

Roles and Responsibilities of Project Team Members

There should be no ambiguity about roles and responsibilities, which means that roles and responsibilities must be defined in detail. Assigning roles and responsibilities assists:

- with balancing the workload
- clarifying who is doing what
- provides a quality check
- links to the schedule and the WBS

Spend time during each phase with individual project personnel to make sure they are clear about the responsibilities and have the required information and skill to carry out the work.

It is the Project Manager's responsibility to:

- Identify the skills required for each part of the project
- Locate appropriate project staff
- Arrange for training if necessary
- Keep staff up to date with regard to any changes
- Look after the morale of the project staff
- Identify and resolve problems

Goods and Services

Resources to be planned for the project also include equipment, space and materials. A detailed resource schedule should be prepared based on the items listed on the WBS. A budget is a list of all the costs to execute the project and allows us to see whether or not the project's benefits justify its costs.

The first question to ask is "What is it going to take to actually do the project?" in terms of time, equipment, space and materials

You will need to estimate how much of each resource you will need, and when, in order to meet time objectives.

Cost Estimates/Budget

You are now in a position to estimate costs. In order to prepare your budget, you will need to estimate how much of each resource you will need, and when you will need it in order to meet time objectives. From this you can estimate costs.

Set up a Cost Estimates worksheet that includes:

- All the project activities
- All project resource items assigned to the activities
- Cost per hour/item
- Number of hours/items
- Totals of labour costs and goods and services costs.

Once these costs have been identified, you also need to consider:

- Once the project is completed, are there going to be ongoing costs for people or maintenance?
- Will any costs be avoided? (I.e. will you not be spending money that you would have to spend if you don't do this project? What will the cost savings be of the new system vs. what you project the cost of the current system to be?)
- Are there non-financial costs or benefits?

RISK PLANNING

Risk is present throughout the lifecycle of the project and all projects are subject to uncertainty and therefore to risk. The earlier you identify potential risks and plan to manage them, the greater the chance of project success. Risk refers to future conditions or circumstances that exist outside the control of the project team that will have an adverse impact on the project if they occur. Risk is simply the likelihood that your project will fail in some way.

The higher the risk, the more likely that one of those problems will happen. Risk is inevitable. By analysing and managing risk up front you are able to:

- Anticipate situations, glitches and problems as well as build contingency plans
- Conduct project management activities in proportion to the amount of risk
- Manage the expectations of the stakeholders and the project team

Risk vs. Issue vs. Assumption

A **risk** is a potential future problem that has not yet occurred and is outside the control of the project team. An **issue** on the other hand is a current problem that must be dealt with and an **assumption** can also be thought of as a low level risk and is outside the control of the project team.

Techniques to Identify Project Risks

- Gather the project team together
- List glitches that have occurred in other, similar projects
- Brainstorm other surprises that might occur by asking the following questions:
    - What can go wrong on this project?
        - Time: could extend past the scheduled finish date
        - Cost: could blow out
        - Quality: might need to be downgraded
        - Resources: might not be available as scheduled
    - What will happen to the project if it goes wrong?
        - Credibility of the project manager and project team members
        - Timeline extensions
        - Additional funding approvals
        - Resource sourcing
        - Changes to the specification
    - What can the project stakeholders actually do about it?
        - Take preventative action (Hartley 2003)
- Categorise the risks to assist in understanding both the risk and the possible management strategies
    - Technical, Quality or Performance Risks
        - Reliance on unproven or complex technology or functionality
        - Unrealistic performance goals
        - Changes to technology used (during the project)
        - Clarity/stability of system requirements
    - Project Management Risks
        - Weak or non-existent project management methodology
        - Poor allocation of time and resources
        - Insufficient detail in the project plan or poor application of project management disciplines
        - Location of project team members
        - Team skills and competencies
        - Project manager skills and experience
        - Use of external; staff/consultant
        - Clarity of roles and responsibilities
        - Accuracy of estimates
        - Project duration
        - Staffing levels
    - Organisational Risks
        - Irregularities between time, cost and scope objectives
        - Low commitment to the project
        - User experience and buy-in
        - Poor prioritisation
        - Inadequate funding (or delays)
        - Resource conflicts with other projects
    - External Risks
        - Changes in legal or regulatory requirements
        - Industrial relations issues

- Change in client/owner priorities
- Country risk
- Weather

Assign and Analyse Project Risk Levels

Once the risks have been identified, analyse and rate each one as high, medium or low for its possible impact on the project as well as the likelihood of it being triggered. As a general rule low impact scenarios can be ignored while high and, if time allows medium impact scenarios should generate a brief discussion of a contingency plan.

A grid such as the one shown below can be used to assist in analysing each of the risks in order to determine which scenarios need to be included in the risk management plan.

		Impact		
		Low	Medium	High
Likelihood	High	3	6	9
	Medium	2	4	6
	Low	1	2	3

Prepare to Manage the Risks

Once the risks have been identified and analysed, determine what action needs to be taken to minimise the risk (i.e. reduce its likelihood/impact) or manage the risk if it is triggered. Strategies include:

- Risk avoidance
    - By planning around risks, alternatives may be found that eliminate the potential risk altogether
    - Avoiding the risk may be via different technology, modified procedures or active monitoring of "triggers"
- Risk Mitigation
    - The risk is controlled such that its potential to impact negatively on the project is minimised
- Risk Acceptance
    - Assuming that the risk does occur, contingency planning outlines the steps to be taken to achieve the optimal positive result for the project (eg extra funding, alternative technology or procedures or other recovery strategies)
- Risk Transference
    - The responsibility for the risk is transferred to a third party (eg requiring a supplier to give a fixed price or guarantee, perhaps with a penalty clause, or to take out insurance against a risk occurring).

QUALITY PLANNING

Quality is a subjective measure, often meaning different things to different people. In quality planning, the level of quality required of each of the project deliverables needs to be determined and agreed with key stakeholders before the project commences. It is important to determine which of the quality aspects are most important to key stakeholders.

Using the Work Breakdown Structure, you should identify with your key stakeholders, where and how it is most appropriate to verify that quality objectives have been met in order to ensure the success of the project.

Turner (1997) suggests that there are six prerequisites to assure the quality of the product:

- Clear specification
- Defined standards
- Historical experience/data
- Qualified resources
- Impartial reviews
- Effective change control

COMMUNICATIONS PLANNING

Properly communicating on a project is a critical success factor for managing the expectations of the client and the stakeholders. If these people are not kept well informed of the project progress there is a much greater chance of problems and difficulties due to differing levels of expectations. In fact, in many cases where conflicts arise, it is not because of the actual problem, but because either the client or the manager was surprised.

What do your Stakeholders need to know?

- If relevant, ask them!
- Ask them what they need to report to their senior manager
- Remember that if you are reporting to more than one senior manager, they might need to know different things at different times
- Remember the importance of informal communication activities (but confirm any discussions in writing).

Communications Plan

A communications plan should contain the following information:

- Who needs to be communicated with?
- In what form?
- When? How often?
- What do they need to know?
    - If relevant, ask them
    - If your Project Sponsor needs to report upwards, ask them what they need to report to their manager
    - If you are reporting to more than one Senior Manager, they might need to know different things at different times.
- Who is responsible for communication?

HANDOVER PLANNING

The Handover Plan provides a high-level description of the product or service that is to be handed over to the client. This document describes the steps necessary to turn the project's product or service over to the business unit and maintenance & operations support staff. The plan assures that all of the necessary steps are identified and that each of these steps has resources assigned to them. Sources of information for handover planning should include representation of all those who have assignments or who are affected by the project's outcomes.

Typically, the project team executes most of the tasks contained in the Handover Plan after completing quality assurance testing and obtaining client approval. However, parts of the plan may be executed during other phases of the project. For example, the plan may call for establishing a production environment, ordering equipment, acquiring of facilities, or preparing training materials. To accomplish these tasks, the project team will need to do some early preparatory work.

When planning the handover tasks, be aware of the challenges facing those that have to make a change when the new product or service is implemented. Manage these challenges well in advance of the implementation/transition date to help make the transition smoother.

Handover Plan

Handover planning is started at a high level once the project requirements have been defined. The Project Manager should seek input from people who will be involved in the handover phase as well as the people who will be maintaining the product once the handover is complete. The project's work breakdown structure should contain the high-level handover tasks. Additional details are added as the project progresses. The final result will be the detailed Handover Plan.

It is a good idea to hold a walkthrough of the handover plan with all stakeholders to verify that all tasks are accounted for, are in their proper sequence, and assigned to appropriate resources. Tasks for handing off the "new" as well as closing out the "old" should be included in your handover plan. Track and monitor the handover tasks along with the rest of the project schedule.

Changes made to the Handover Plan may also result in changes to other project planning documents. When the Handover Plan changes, review the other project planning documents to make sure updates are made where appropriate.

Perform a dry run, or tabletop exercise, of the Handover Plan prior to actual implementation. Conduct the dry run test as close to actual implementation as possible or feasible. Make sure the sequencing and timing of the tasks are correct.

PROJECT PLAN

The project plan is the basis for monitoring and controlling the project. The final step in the process is to consolidate all the information and prepare a project plan. The Project Plan builds on the information provided in the Project Proposal and should include the following:

- Project Purpose
- Background and Strategic Context
- Priority and Related Projects
- Agreed Project Objective (and any sub-objectives)

- Project Scope
    - In scope
    - Exclusions from Scope
    - Assumptions
    - Constraints
    - Deliverables
- Project Governance
    - Roles and responsibilities (project team and key stakeholders)
- Stakeholders
- Schedule
    - Gantt Chart
    - Milestone Plan
- Resource and Cost Plan
- Risk Assessment
    - Major project risks
    - Risk management strategy)
- Communications Management Plan (when and how to report)
- Quality Management Plan
    - Standards
    - Recovery procedure
- Procurement schedule (how you obtain items/people)
- Controls
- Variance/Change management procedure

In addition to the Project Plan you may decide to attach additional supporting documentation such as:
- Work Breakdown Structure
- Network Diagram
- Stakeholder Needs Analysis
- Relationship Matrix
- Gantt Chart
- Master Workplan/Schedule
- Budget and Costs
- Project Cash Flow
- Risk Analysis
- Quality Planning Matrix
- Communications Management Plan
- Handover Management Plan

It is almost impossible to conduct and manage a project if it does not have a well-developed project plan that has been SIGNED-OFF/APPROVED.

TEMPLATE: GANTT CHART

Simply list the activities and tasks in the first column, select an appropriate time interval (days, weeks or months), allocate the dates in the remaining columns onwards and plot the expected time duration (total time from start to completion) under the appropriate column by selecting shading from the Format/Cells/Patterns menus. When you wish to provide a status report simply colour or shade in black those items that are completed or estimate the percentage complete. This will give you an immediate visual representation as to whether or not you are on schedule. You may wish to add extra columns for assignment of responsibilities etc.

Activity/Task																			

TEMPLATE: COMBINED RESOURCES & BUDGET SCHEDULE

Resource planning is where you determine what resources (people, equipment and materials) and what quantities of each should be used to perform activities. Once the resources have been determined, estimate the project costs. Include a more detailed resource and cost plan in the Appendices if required.

Activity or Task From WBS	Item	Goods & Services or Suppliers Costs			Human Resources Costs		
		Cost Per Item	No. of Units	Total Cost	Cost Per Hour	No. of Hours	Total Cost

TEMPLATE: PROJECT RISK ANALYSIS

- Describe each risk that you have identified in the table below. When identifying the risks, it may help you to categorise the risks as: technical, quality or performance risks, Project management risks, Organisational risks, or External risks.
- Once you have identified the risks, analyse each risk in terms of the likelihood of the risk occurring and the consequences or effect on the project if the risk event occurs. Use a three point rating scale of High, Medium or Low.
- For each of the identified risks, determine whether you will avoid, mitigate, accept or transfer the risk.
    - For each risk that you have decided to accept, describe the contingency response should the risk be triggered.
    - For each risk that you have decided to mitigate or avoid, describe the containment strategy
- List the person who owns the risk and is therefore responsible for managing it.

Risk	Likelihood (H/M/L)	Impact (H/M/L)	Risk response (Containment or contingency strategies)	Responsibility

TEMPLATE: QUALITY MANAGEMENT PLAN

The quality criteria are the agreed standards for the project deliverables. It is often useful to set a benchmark or example. Documenting recovery procedures for rectifying any faults discovered in the process will assist others who are involved in the project team. The quality plan should also include who will be responsible for rectifying the fault.

Deliverable	Agreed Quality Criteria	Recovery Procedure (If item does not meet standard)	Responsibility

TEMPLATE: COMMUNICATION MANAGEMENT PLAN

The Communications Management Plan is used to determine the information and communication needs of stakeholders. For each Stakeholder, determine what information they need, when they will need it and how the information will be given to them. Include details of who is responsible for providing the information.

Stakeholder	What Information?	When?	How? (Format/Medium)	Who is responsible?

TEMPLATE: HANDOVER MANAGEMENT PLAN

Introduction & Background

Provide a high-level description of the product or services to be handed over to the client/end-users.

Handover Support Arrangements

Describe the overall approach to be used in handing over the product/service to the client and end-users. Include any assumptions that impact this approach.

Budget

Identify the budget associated with handover activities (in the context of the original financial plan).

Schedule

Describe the handover schedule and factors influencing that schedule. Include reference to business cycles or other timing considerations (in the context of the original project schedule).

Roles & Responsibilities

Identify the roles and responsibilities associated with implementing the handover plan as well as the skill set needed to perform those functions. Key roles to identify include the primary business contact, implementation team lead(s), key technical staff, customer or help desk support, documentation and other support staff.

Training

Describe user and support training activities supporting implementation (in the context of the original training plan).

Stakeholder Management

Describe how stakeholder/customers will be involved in or informed about implementation activities. Describe key stakeholders and methods for communication where known.

Migration Strategy

Describe how the product or service will be migrated into the business environment. This section will include any conversion details, sequencing, establishment of production environment, installation of equipment, and the like.

Documentation

Describe product or system documentation and how information is stored and accessed. Include descriptions of material that will be produced during implementation and transition activities. Include details on where documentation is stored and how it is accessed.

Turnover

Describe product/service turnover activities and any assumptions related to turnover. Describe or reference the state or status of the product/service at the time of turnover. Identify any turnover activities that must be performed by a vendor in transitioning product/service to state staff.

Acceptance

Define the point at which business and project staff agree that implementation will be complete and transition to maintenance can occur.

Handover Acceptance

Insert signature block indicating acceptance of new system.

TEMPLATE: PROJECT PLAN

The Project Plan is the basis for monitoring and controlling the project. This document builds on the information provided in the Project Proposal.

Project Title

Project Purpose

From Project Proposal - update if required

Background and Strategic Context

From Project Proposal - update if required

Priority

From Project Proposal - update if required

Other Related Projects

From Project Proposal - update if required

Project Objective

From Project Proposal - update if required

Scope including key deliverables

From Project Proposal - update if required

In Scope

Out of Scope

Assumptions

Constraints

Deliverables

Governance

From Project Proposal - update if required. Attach a Project Organisation Chart and additional information on Responsibilities if required.

Project Client/Owner

Project Sponsor

Project Manager

Manager of the Project Manager

Project Team Members

Steering Committee/Working Party

Key Stakeholders

From Project Proposal - update if required. Include a more detailed stakeholder analysis in the Appendices if required.

Schedule

Using the information you generated in the Work Breakdown Structure, update the Schedule.   Include a Gantt chart or additional planning information in the Appendices

Item	Milestone Date	Responsibility

Resource and Cost Plan

Resource planning is where you determine what resources (people, equipment and materials) and what quantities of each should be used to perform activities. Once the resources have been determined, estimate the project costs. Include a more detailed resource and cost plan in the Appendices if required.

Deliverable/Milestone/Phase	Resource	Cost

Project Risk Assessment

From Project Proposal - update if required. Include a more detailed Risk Management Plan in the Appendices

Risk	Level (high/Medium/Low)	Management Strategy

Quality Management Plan

Include a high level Quality Management Plan here.   Include a more detailed Quality Management Plan in the Appendices if required

Item from WBS	Agreed Quality Standard	Recovery Procedure

Communications and Reporting

Include a high level Communications Plan here. Include a more detailed Communications Management Plan in the Appendices if required

Stakeholder	Information Required	When required	Format

Controls

Outline how you are going to track, monitor and report on the project. For example:
- Status Reports
- Exception Reports
- Issues/Risk Log
- Variance Requests

Appendices

List the Appendices that are attached to your Project Plan.

- Stakeholder Needs Analysis
- Work Breakdown Structure
- Network Diagram
- Gantt Chart
- Activities Schedule
- Budget /Cash flow,
- Human Resource Planning Schedule
- Roles and Responsibilities
- Procurement Schedule
- Combined Resources & Cost Schedule
- Risk Management Plan
- Quality Management Plan
- Communications Management Plan

Future Related Projects

Approvals

Signed:_____
Project Manager

Signed: _____
Project Sponsor

Signed: _____
Project Client/Owner

Signed: _____

IMPLEMENTATION AND EXECUTION

Now it is time for the project to begin and your project plan is your map. Unfortunately, the minute your project begins, your project plan is out of date. These changes may include new deliverables or activities but the most common change is that the time estimates are too short. Scope, money and quality constraints may also change. Remember that a change to the project plan is not a failure on your part. It is impossible to completely anticipate all the events that are going to occur in a project before you get to the nitty-gritty. Once the Implementation Phase has begun an agreed form of variance management procedure must be in place. This is a formal process for recording, assessing and obtaining approval to any variation.

IMPLEMENTING PROCESSES

The nature of the implementation processes will depend on the type and size of the project. Scope, time, cost, risk, quality, project organisation, human resources, communications and procurement must be managed. Successful implementation of a project depends upon:

- Good planning
- Clear roles and responsibilities
- Continuous monitoring of Stakeholders
- Vigilant communication practice
- Team management skills
- Ability to manage variance
- Clear and appropriate record keeping

STAKEHOLDER MANAGEMENT

Stakeholder management is critical, essential and time consuming. Key stakeholders can change during the project and existing stakeholders often change their minds about important issues. You will not be able to prevent this but it must be managed. Changes introduced to the project that add stakeholders also add complexity including additional requirements, prioritisation, communication, planning, and expectations management. The project manager needs to ensure that the new stakeholders will not present conflicts with the stakeholders who are already part of the project. This in itself can be time consuming, frustrating and can have an impact on the project in many ways.

Managing expectations requires constant communication with key stakeholders to ensure that there are no nasty surprises. Stakeholders, particularly Sponsors, Clients and End Users, should be engaged and accept responsibility for the success of the project.

TEAM MANAGEMENT

Team skills

If you are working with or managing a team or a group of stakeholders, team management skills are essential. These skills are best acquired experientially through workshops and practice. Relevant Learning & Development Program workshops include:

- Fostering Teamwork
- Building Productive Relationships
- Negotiation Skills

Roles and Responsibilities

Definitions of the roles and responsibilities for a project should occur during the initiation and planning phases. As roles and responsibilities are likely to change during the lifecycle of the project, it is really important that those responsibilities are communicated continuously during the Implementation phase.

Remember to spend time during Implementation with individual project personnel to make sure they are clear about the responsibilities and have the required information and skill to carry out the work. It is the Project Manager's responsibility to:

- Identify the skills required for each part of the project
- Locate appropriate project staff
- Arrange for training if necessary
- Keep staff up to date with regard to any changes
- Look after the morale of the project staff
- Identify and resolve problems and conflicts

Tips for Effective Team Management

- Create an environment of trust, good relationships, respect
- Encourage consensus decisions-making, good performance and commitment to client satisfaction
- Obtain input of project staff to the performance review of staff they interact with in a significant way, as appropriate
- Improve team performance through team-building activities
- Reward and recognise good performance including team work
- Co-locate team members, if appropriate
- Provide training as required.

PROJECT PLAN EXECUTION

It is very unusual for any undertaking to go exactly to plan. Projects are no exception. By the nature of the project, more information is being uncovered all the time that can affect the progress of the project. We execute and control against the Project Plan.

It is important to monitor the degree to which the plan is being followed and to take appropriate action if the project is deviating significantly from the plan. Remember that if the project deviates significantly you will need to use an appropriate variance management procedure.

You will need a system for monitoring the project and controlling it as much as possible. Any project control system should do the following:

- Focus on what is important:
  - What is important to the organisation?
  - What are we attempting to do?
  - Which parts of the project are the most important to track and control?
  - What are the essential points at which controls need to be placed?
- Enable corrective action
- Emphasise early responses

Remember: No one system is right for all projects. A system that's right for a large project will swamp a small one with paperwork, while a system that works for small projects won't have enough muscle for a big one.

Monitor the Project Plan

- Review the Project Plan on a weekly basis
- Identify activities that have been completed during the previous week and update the Plan to show they are finalised.
- Determine whether there are any other activities that should be completed, but are not. Work with the individual(s) who are assigned to see what is going on. There could be problems that need to be resolved, or it may be that the length of time needed to complete the activity was underestimated. Determine how much additional effort and duration will be needed to complete the work and update the Plan accordingly.
- Evaluate the remaining work to see if the project will be completed within the original effort, cost and duration. Even though some activities may be completed later than planned, other work may be completed early.
- Adjust the Plan so that it reflects how the remaining work will be completed. The first priority should be to complete the project within the original estimates for effort, duration and cost.
- If any of the original estimates cannot be met, new estimates need to be prepared and communicated to management and to the client. This is important information to share because there may be areas where they can provide input.

VARIANCE (CHANGE) MANAGEMENT

Variances (changes) that occur during the life cycle of the project need to be managed. Variance control is concerned with influencing the factors which create the variances to ensure that the changes are beneficial; determining that a changes to the scope has in fact has occurred; and managing the actual changes when and if they occur. Variances (changes) can result from:

- Project being harder than anticipated
- Incorrect planning assumptions
- Changes to deadlines
- Changes to actual costs and/or budget
- Changes in priority
- Barriers/resistance
- Mistakes
- Acts of God
- Risks that are triggered
- Changing Stakeholder/User requirements
- Delays in procurement
- Lost or reduced resources (including human resources)

Types of Variance

Issues

All projects have to deal with issues that cannot be ignored or deferred to some later time. These issues must be resolved quickly and effectively. Some issues are small and arise on a day-to-day basis and can be managed within the scope of the Project Manager as long as they do not have an impact on the budget, schedule or quality. Normally the issue and its resolution are simply recorded at Progress Meetings.

Risks

Issues that arise from risks being triggered and are big enough to have an impact on the budget, schedule and quality will impede the progress of the project and cannot be resolved by the Project Manager and project team without outside help. These risks need to be reported at meetings and the decision to act is taken by the Sponsor or jointly by the Steering Committee. There is normally a sense of urgency around these issues and they must be addressed quickly.

Scope creep

This is unauthorised increase in scope or functionality. 'Scope creep' is a major cause of time and cost delays as well as reduction in quality. It can often be caused by over commitment as a result of casually taking on more work than initially agreed. A stakeholder will request something in addition or something different from what has already been planned and agreed. Changes to scope will have impacts on time, cost and quality and could also trigger other kinds of risks.

The key stakeholders need to be constantly reminded of the agreed scope of the project and that any changes will only occur according to the agreed procedures. The Project Proposal, which was developed at the end of the Initiation Phase, is very useful to help control scope creep.

The Project Manager must not automatically agree to everything a key stakeholder wants. It is the role of the Project Manager to point out to key stakeholders what the impact of any change to the project will be on the cost, time and quality objectives of the project.

Requests for information

It is sensible practice to ask stakeholders to agree to supply information within an agreed period of time. A delay with respect to a request for information during the Implementation Phase can cause serious delays to the project as a whole. Stakeholders must be aware of the potential impact of delays.

Variance Management Procedure

Once the Implementation Phase has begun an agreed form of Variance Management procedure must be in place. This is a formal process for recording, assessing and obtaining agreement to any changes or variances. Any variation must be assessed for its impact on the project objectives and the impacts are reported in terms of the three project objectives – time, cost, and quality. Once a decision has been made to accept a variation, it must be documented, reported and recorded in the status report with updated budget, schedule etc.

Never agree to a variance:
- Until you have assessed its impact on budget, schedule and quality
- Unless it is within your authority to approve
- Until it has been formally agreed and documented
- Unless the key stakeholders (Project Sponsor/board/Steering Committee) have signed off on the revised budget and schedule

Remember
- Focus on the key stakeholders – it is their Project
- Key stakeholders make the decision to change the plan to reflect a new need
- Your job is to implement the agreed variances
- The Project Sponsor approves the variances, not the end-users.

Checklist for Managing Variances

- Anticipate change and manage it across all processes
- Analyse schedule, budget, resource and quality changes interactively
- Apply variance control procedures
- Obtain client/other stakeholder agreement to changes which impact on project objectives
- Measure performance to assess if variances from plan require corrective action
- Make adjustments to the Project Plan as required – review cost estimates, modify activity sequence, analyse risk response alternatives, etc
- Manage changing stakeholder needs
- Document lessons learned for this and other projects – causes of variances, reasons behind corrective actions, etc

Control Scope

Scope control is concerned with influencing the factors that create changes to scope in order to ensure that any changes are beneficial; determining that a scope change has occurred; and managing the actual changes when and if they occur.

- Respond to change requests
- Check variance control procedure
- Assess impact of change
- Carry out additional planning
- Implement approved variation to scope
- Alter cost, time, quality of other baseline criteria
- Update documents as required
- Notify stakeholders if necessary
- Take corrective action as required
- Document lessons learned

Control Schedule

Just because you monitor your project on an ongoing basis does not mean that you may never miss deadlines. The good thing about managing the Project Plan is that you will be in a position to put a proactive plan in place to get back on schedule.

- Identify and analyse deviations from schedule and their causes
- Balance resources
- Update the schedule
- Notify stakeholders, as appropriate
- Alter other aspects of the project plan if necessary
- Apply scope change procedure if changing key activity start or finish dates
- Take corrective action if needed to finish activities on or close to finish date:
  - Renegotiate *(Discuss with stakeholders about increasing the budget or extending the deadline.)*
  - Recover during later steps *(Re-examine budgets and schedules to see if you can make up the time elsewhere.)*
  - Narrow project scope *(Are there nonessential elements of the project that can be dropped to reduce costs and save time.)*
  - Deploy more resources *(Can you put more people or machines to work? Weigh the costs against the importance of the deadline.)*
  - Accept substitution *(Can you substitute a less-expensive or more readily available item?)*
  - Seek alternative sources *(Can another source supply the missing item?)*
  - Accept partial delivery *(Can you accept a few of a missing item to keep work going and complete the delivery later)*
  - Offer incentives *(Can you offer bonuses or other incentives for on-time delivery?)*
  - Demand compliance *(Will demanding that people do what they said they would get the desired result? This may require support from upper management.)* (Duffy 2001)
- Analyse progress trends
- Document lessons learned

Control Costs

- Establish, document and communicate cost control procedure
- Monitor cost performance to detect variances from plan
- Ensure that all appropriate changes are recorded accurately in the cost baseline
- Prevent incorrect, inappropriate or unauthorised changes from being included in the baseline
- Inform appropriate stakeholders of authorised changes
- Revise cost estimates

- Update budget
- Take corrective action:
    - Swap human resources (*Swap highly paid resources with ones that can the work, but at a lower cost. If cost control is more important than time, you may be willing for the work to take a longer time, if it is done at a reduced cost.*)
    - Eliminate or replace non-labour costs (*Use less costly materials, supplies or services than was originally budgeted for.*)
    - Improve processes (*Get team members feedback and look for ways to streamline processes.*)
    - Scope back work (*If the budget is firm and you can't get the remaining work completed within the budget, raise it as an issue.*)
- Forecast cost at completion
- Document lessons learned.

Control Quality

- Keep errors and duplication out of processes (prevention)
- Avoid errors impacting on the client
- Measure, examine, test to determine whether results conform to requirements
- Ensure that processes are "in control"
- Fix problems that are causing the greatest number of defects
- Sample/pilot deliverables, processes and products
- Analyse the causes of problems
- Forecast future trends
- Accept or reject inspected items
- Rework defective items, where appropriate
- Complete checklists, if required
- Take corrective of preventative action

Control Risk Response

- Repeat basic cycle of identify, quantify and respond in response to changes – anticipate and identify new risks
- Respond to negative risks events as required
- Maintain contingency plan
- Take corrective action
- Update risk management plan (including the elimination of redundant risks)

COMMUNICATIONS MANAGEMENT

Project implementation depends on communication. Properly communicating on a project is a critical success factor for managing the expectations of the client and stakeholders. If these people are not kept well informed of the project progress there is a much greater chance of problems and difficulties due to differing levels of expectations. In fact, in many cases where conflicts arise, it is not because of the actual problem but because either the client or the manager was surprised.

Remember: What hasn't been written hasn't been said so follow up all informal communications in writing!

Project Reporting

What you need to report and how often will depend on the size of the project, how many personnel are involved, the budget, the risks involved and the needs of your key stakeholders (especially the Project Sponsor/Board). You need to start reporting from the time you get involved in the project. It is important to negotiate a reporting system up front with your Project Sponsor and ensure it is in place from the beginning of the project *(NB the content, format and frequency might vary as the project moves through its life cycle BUT regular reports happened throughout the entire project).*

Ask your Project Sponsor what he or she needs to report to his or her manager. This question will guide you with respect to the level of detail needed in your reports and the frequency. It is a waste of time to report unnecessary details but it is also a waste of time to report insufficient details. Different types of reports are outlined below.

The Project Proposal

The project proposal is developed at the conclusion of the Initiation Phase. It contains the summarised details of the initial high-level planning process and requires "sign-off" or the authority to proceed to the next phase.

Project Plan

The Project Plan is developed at the conclusion of the Planning Phase. It is a detailed document that is the basis for monitoring and controlling the project.

Variance/Change Request

A Variance or Change Request is a formal process that documents any changes to scope or any risks triggered that might result in variances to the project objectives in terms of time, cost or quality.

Status Reports

Status Reports are required at regular intervals throughout the project. The frequency, format and level of detail should be negotiated directly with the Project Sponsor. Status Reports provide up to the minute information on work achieved in relation to:

- Schedule (original approved completion date, authorised changes and current estimated completion date)
- Budget (original approved budget, authorised changes and current estimated budget)
- Issues (any issues or risks triggered that have resulted in approved changes to scope, schedule, budget, quality or functionality)

Exception Reports

Sometimes an exception report will suffice. You only report when things are not on schedule, are over-budget, a risk has been triggered or a key milestone has been met.

Progress Meetings

Progress meetings can be held to report on status; predict impact on baseline schedule, costs, quality, scope; resolve issues; obtain authority to proceed; verify and re-assign responsibilities; and review the project Workplan.

Remember: Reporting is an essential part of project management. However the level of detail should be appropriate to the risks associated with the project. It is possible to spend all your time preparing reports leaving no time to manage the project!

REMEMBER: FILE EVERYTHING!

TEMPLATE: VARIANCE REQUEST

Project Title:

Issued by: {Name}   **Date:**

Item of Scope Affected	
Nature of Change Requested	
Reason for Change	
Impact on Scope	
Impact on Budget	
Impact on Schedule	

Change Authorised: **Yes /No**	Adjusted Project Completion Date:	Adjusted Final Budget:

Signed: _____
  Project Manager
 	
Date:
	Signed: _____
	  Sponsor
	
	Date:
		Signed: _____
		  Client/Owner
		
		Date:

TEMPLATE: STATUS REPORT

Report No:

Project Title: **Date:**

Item	Work Completed To Date	Milestone Date	Revised Date	Budgeted Cost	Revised Cost	Responsibility

ISSUES REGISTER:

Item	Strategy	Date Logged	Date Resolved

Signed: **Signed:**
Project Manager

Signed: **Signed:**
Sponsor

EVALUATION & CLOSURE

All good things must come to an end. Projects are designed to end at some point as that is the nature of project work. To gain maximum benefit from a project, the project should go through a formal close down. You should have planned for closure during the Planning Phase of your project.

Project closure is the fourth major phase of a project's lifecycle. It is during this phase that the project is reviewed and any lessons learned from it are used to improve future projects. Project closure is often the most neglected stage of project management. Once the implementation phase has been successfully completed there is usually a period of relief followed by a desire to move on to more productive fields such as new and challenging future projects. Responsibility for wrapping up all the loose ends may be passed to a junior project manager or the project may just fade away for lack of resources or interest. Important lessons may not be learned, genuine evaluation on the success or failure of the project may not be gained and the organisation may blunder into the future none the wiser from the experience.

In some cases, closure may be because the project failed. If so, there may be little enthusiasm for rubbing salt in the wound by going over past mistakes. However, some of the best lessons for future improvements can be gained by evaluating failed projects.

⇒ *Remember – that it is normal for complex projects to be only partially successful.*

Nobody gets excited about project closure. That isn't to say that nobody wants to complete their projects, or that people don't want to judge how successful projects have been. It's just that the associated routine (or process) and paperwork never seem as important as the myriad of other things that a project manager and his/her team must do as a project, or a stage of one, is being closed. The work has been done, the customer has what he or she wants, and everybody's mind is moving on to the next project or challenge.

Project managers, project sponsors, and project team members alike will readily acknowledge the importance of project closeout management. The logic is unquestionable.

- If adequate product records are not kept, whole-life costs of the product are likely to increase.
- If there is no deep and thorough understanding of where reality has diverged from plans, there is little hope of making better plans next time.
- If time is not taken to reflect on the lessons of the past, the likelihood is that similar mistakes will be made in the future.
- If project relationships are not brought to a satisfactory closure, unresolved issues and resentments may smoulder beneath the surface, ready at any time to erupt with unpleasant consequences.

CLOSEOUT MANAGEMENT ACTIVITIES

(Adapted from Terry Cooke-Davies, 2001)

The final phase of the project provides the opportunity to capture and transfer project knowledge for use in future projects. Once the project has been completed provision should be made to archive the files and enter the project information into the appropriate database. Closing involves formalising the acceptance of results and ending the project.

Finish the Work

As the project nears completion, there is a natural tendency for members of the team to do sufficient work to meet time and overall quality standards, while leaving a number of small elements of the work outstanding. There may also be issues that have emerged at various times during the life of the project and have yet to be resolved.

To ensure that the work is actually finished, create a checklist of the outstanding tasks and issues and use it as a control mechanism.

Handover the product

No matter what type of project has been undertaken, there will be some sort of "handover" required. Remember: the end-users won't share the same insights and knowledge about the product as the project team who created it. Implementing the Handover Plan includes:

- Transfer of responsibility over to the operational managers and staff:
- Transfer of physical deliverables
- Training of users
- Sharing of technical designs and important design concepts
- Provision of drawings and specifications, etc.

Gain Acceptance for the Product

Projects need a clear cut-off to signal the end of handover and the transfer of full operational responsibility from the project team to the client/customer. Gaining acceptance is not as simple or straightforward as it might appear for the following reasons:

- Client may lack confidence in his or her ability to manage the product or service effectively without ongoing support
- Client may doubt his or her ability to deliver the benefits from the product or service on which the business case was built, and there will no longer be anyone else with whom to share the blame.
- Client maybe receiving adverse comments from end users who were never convinced of the merits of the project in the first place.
- Client may have come to realize in the course of the project that what they really want isn't the product or service that the project has delivered, and as long as no acceptance has been signed, it might be possible to improve the match.

So…..you need to plan for project acceptance during project initiation and BUILD RELATIONSHIPS!

Harvest Benefits

The project will be successful only when the intended benefits are harvested. This means that the project team has a genuine interest in the product or service being managed in such a way that the full benefits are obtained. Some of the benefits are easy to quantify and measure, others are not (eg benefits of organisation-wide education in risk management).

The Project Manager and Project Sponsor need to ensure that three conditions exist before the project is finally put to bed:

- The criteria by which benefits of the product or service will be measured or assessed are clear.
- The points in time at which the measurement or assessment will be carried out are established.
- A named person has accepted responsibility for carrying out the measurement or assessment in the agreed way at the agreed points in time.

Review how it all went

A project that seems successful from the point of view of one set of stakeholders might appear to have failed when seen from another viewpoint. A project completed on time and within budget might look splendid at the time of project closeout, but a year later, with the benefit of hindsight, it might appear to have been a big mistake. Different groups of stakeholders need to:

- Agree at the BEGINNING, precisely what will constitute "project success"
- Review the project at the end to see what degree of success was actually achieved
- The review is carried out in two phases:
    - Post-Project Review (lessons-learned)
    - Post-implementation (business benefits)

Post Project Review (lessons-learned)

(See the next section for a model on how to conduct a Post-Project Review)

- Undertaken while members of the project team have the actual events of the project still fresh in their minds
- Purpose is to reflect on the events that took place in the course of the project and consider what might have been done differently to improve the results obtained
- Led by the Project Manager or Project Sponsor
- Attended by representatives from all significant partied that contributed to the project
- Likely to be based on a comparison between the actual results and the conduct of the project, project proposal and project plan
- The results should then be communicated to everyone who needs to know what happened

Business Benefits or Post-Implementation Review

- Held some months after the product or service has been in operation, when the benefits can be more accurately assessed
- Purpose is to establish the extend to which the product of the project is delivering the anticipated benefits
- Based on a comparison between actual operating benefits being harvested and those predicted in the project proposal or business case

- Focus is on the operation and the impact on benefits of decisions made during the establishment and execution of the project
- The results should be communicated widely to the appropriate audience

Continuous Evaluation & Improvement (Status) Review

As well as conducting a post-project review, it is important to continuously evaluate and review the project. At the end of each phase a number of actions should occur:

- A check is carried out to confirm that all work is completed and that the phase has achieved its objectivise
- The project plan is checked to ensure that all of the activities within it are either carried out or there has been good reason not to
- All documentation is finalised
- The phase is "signed off"
- The phase is reviewed, issues for further action are noted, lessons learned are captures and recommendations are put forward to the appropriate authority for inclusion in future phases

Put it all to Bed

- Complete all documentation
- Archive project records
    - o Drawings and technical specifications
    - o Financial records
    - o Personnel records
    - o Essential records of meetings, reviews, contracts etc
- Hand back resources (eg offices or technology)
- Integrate benefits into business plans and operating plans and budgets of all business units that are the beneficiaries of the product or service

Disband the Team (end the relationships)

- Close down contracts (this prevents unnecessary work being charged to the project after it has formally ended)
- Release resources (ie staff return to their line or functional department)
- Celebrate success
- Give honest feedback

KNOWLEDGE MANAGEMENT AND PROJECT EVALUATION

Project evaluation is one of the steps in the Finalisation or Closure phase of a project. For many organisations it is almost as important as the planning and implementation phases. It is here that the project is reviewed and any lessons learned are used to make future projects better. During this final phase, your team will be very active gathering data about the project and collating it in a format that will enable a clear and concise report to be prepared.

Ideally an independent person who can objectively assess the information should conduct project evaluations. However, when an independent auditor is not available, the evaluation must be done in a spirit of learning, rather than with an attitude of criticism or blame. If people think they'll be punished for problems, they will try to hide those problems.

Effective evaluation of projects is rarely achieved. This is because of a mixture of factors:

- The psychological need to move on the next project
- Misuse of the evaluation process as a "blame shifting" exercise
- Lack of formal post-project review
- Lack of planning for evaluation – lessons learned are best captured at the time, during the project when the issues are fresh

Evaluation is the basis of knowledge management.

POST PROJECT REVIEW PROCESS MODEL

A post-project review provides the project team members with a chance to reflect on the events and activities that occurred during the project and helps bring closure to the project. It provides an opportunity for team members, sponsors and stakeholders to talk about:

- Successes that happened during or because of the project
- Unintended outcomes that happened during or because of the project
- Other things that, in retrospect, might have been better handled if done differently

When developing a post-project review process, use the following model to help you determine:

- why you are undertaking the review
- when it will be undertaken
- who will be involved
- how you will facilitate the process and
- what is to be included.

Why ?

Before conducting a post-project review you need to understand:

- The purpose of the review
- That different people will have different reasons for participating
- That the aim is NOT to apportion blame but it is to learn and to improve

When? & Who?

The timing of the post-project review will depend on when you expect that the objectives will be manifested for each of the key stakeholders. Remember that people do not like change and therefore the timing of the post project review must allow people time to get used to the change. The timing of the Review also depends upon what is being evaluated (ie the project deliverables and/or the project processes).

More than one review might be required and different stakeholders will be interested in different aspects. You need to determine who to include and the rationale for including some and excluding others.

What do you include?

Questions to ask during the post-project review should include questions around processes AND outcomes, for example:

- Were the project objectives met?

- Is the client satisfied with the project?
- What has been learnt from this project?
  - o Overall
  - o Initiation phase
  - o Planning phase
  - o Implementation phase
  - o Closing phase
- Are there other potential opportunities resulting from this project?
- What technological advances resulted from this project?
- What recommendations do we have for future research and development?
- What lessons did we learn from our dealing with other organisations or sections of the organisation?
- If we had the opportunity to do the project over, what would we do differently?
- What was learnt about the specific project management functions (Scope, Budget, Schedule, Quality, Risk, Communications, Human resources/Governance, Procurement, Integration)
- How can the lessons learned be applied on this and future projects?

How?

The structure that you decide to use will depend on the project, the context, stakeholders and timing. Options include:

- Focus groups
- Questionnaires
- Individual interviews (Face to face or Telephone)
- External facilitation *(In the best of all possible worlds, an independent person who can objectively assess the information should conduct post project reviews. This person must have the ability to facilitate the review process as well as have credibility, expertise and subject knowledge.)*

You need to determine how you will:

- Generate the questions
- Facilitate the discussion
- Structure the session
- Deal with emotion and communicate valuing people
- *Remember that at the end of a big project some of the project team will be in mourning while others will be celebrating*

PROJECT COMPLETION REPORT

The Project Completion Report is normally distributed to all stakeholders as a means of encapsulating everything that occurred during the project and describing anything that could have been done better. The following details should be included:

Summary or Overview

- Brief background to the project
- Summary of the project's performance and its outcomes

Performance against Scope, Objective, Schedule, Budget and Quality

A thorough review of the project to compare what the project set out to achieve and what it actually achieved:

- Changes to the Project objective
- The project selection methods
- Achievements and failures of the project
- Schedule comparisons against the plan
- The extent that risk affected the project
- Magnitude and impact of changes
- Accuracy of forecasts and estimates
- Timeliness and appropriateness of the corrective action taken
- Lessons learned
- Recommendations for future projects

Project Management Aspects

A review of the project management approach adopted throughout the project:

- The appropriateness of the methodology in managing changing expectations
- The inclusion of relevant stakeholders in decision making
- The lessons learned
- The suitability and flexibility of the documentation used
- Stakeholder 'buy-in' to the methodology.

Recommended Improvements

- Outline how you will apply the lessons learned to future projects

TEMPLATE: HANDOVER SUMMARY REPORT

Initial Overall Objectives					
Agreed Changes To Overall Objectives					
Final Agreed Deliverables	**Item**	**Budgeted Cost**	**Final Cost**	**Schedule Date**	**Final Date**
	TOTALS				

ISSUES SUMMARY:

Item	Strategy	Date Logged	Date Resolved

DOCUMENTS ATTACHED:

No.	Title

Signed:
Project Manager

Signed:

_____

Signed:
Sponsor

Signed:

_____

CHECKLIST: HANDOVER

By executing the Handover Plan, the project manager will be able to formally turn over the agreed product or service to the client with as little disruption as possible. Once the functionality and reliability of the product or service is shown to meet the acceptance criteria and the client buys off on it, the ownership of the new product or service can be transferred from the project team to the client. Use the following checklist to ensure that ownership of the product/service is ready to be transferred to the client.

Has a Test Plan been successfully completed?	
Did the project manager walk through the Handover Plan with clients/end-users and technical support staff before executing it?	
Did key stakeholders sign off on the Handover Plan?	
Have stakeholders been notified well in advance of the handover date?	
Have business and technical support staff been identified, assigned and adequately trained to maintain the new system/product?	
Have arrangements been made for knowledge transfer from the vendor to in-house staff?	
Are contingencies in place to recover in case the system/product fails upon cutover?	
Have you completed all product documentation?	
Did you consider implementing the system or product on a smaller scale ("pilot") to lessen the impact to the business area in the event problems are encountered?	
Are you able to provide additional support staff during handover?	
Have you provided a convenient and publicised means for end-users to report problems to the appropriate party (eg vendor, project manager systems administrator, etc)	
Have you created a written production turnover document and received buyoff from those who will be expected to maintain the new product (include contact information for critical project staff).	
Did you clearly outline maintenance roles and responsibilities for vendors and business and technical staff before the transition took place?	
Have you documented all commitments to stakeholders that maintenance staff will be expected to honour?	
Have you documented outstanding issues, problems, and change requests so maintenance staff have a clear understanding of the state of the product at the time of turnover?	
Are the project library and development materials/documentation available to the maintenance team?	
Have you timed the handover so that it has minimal impact on the end-users business activities?	
Have you introduced key members of the maintenance/operational team to key stakeholders in advance of the Handover?	
Have you purchased a maintenance agreement with outside vendors if in-house support is not available or capable of maintaining the product?	

TEMPLATE: POST PROJECT REVIEW

Issued By: Date:

Key Project Stakeholders Consulted:

For each Project Milestone or Phase, identify what worked, what didn't work and ways to improve the process the next time.

Milestone/Phase	What Worked	What Didn't Work	Ways to Improve

Was the client satisfied with the outcome? Why/why not?

Were the resources allocated appropriate, sufficient and efficiently used? (i.e. time, people, money)

How well did the project/team do…

In achieving and meeting project objectives?

At meeting deadlines and the final completion date?

At monitoring and staying within budget?

At communicating?

At identifying and managing variances?

Lessons Learned: What are the key lessons learned that could be applied to future projects?

TEMPLATE: PROJECT COMPLETION REPORT

Project Title:

Project Overview

Brief background to the project and a short narrative describing the project's performance and its outcomes.

Project Objective

Initial Project Objective

From Project Proposal

Agreed Changes to Project Objective

From Variance Requests

Project Outcomes

Deliverable/Milestone From Project Plan	Budgeted Cost From Project Plan	Final Cost	Scheduled Date From Project Plan	Final Date
Totals				

Issues and Risks Summary

Summarise here the issues/risks that arose during the lifecycle of the Project and what action was taken to resolve them.

Lessons Learned

For each Project Milestone or Phase, identify what worked, what didn't work and ways to improve the process the next time.

Milestone/Phase	What Worked	What didn't work	Ways to improve

Recommended Improvements

Outline how you will apply the key lessons learned to future projects.

Project Approvals

_____   _____

Project Manager   Date

_____   _____

Project Sponsor   Date

_____   _____

Project Client/Owner   Date

PROJECT ASSESSMENT SUMMARY CHECKLIST

Use this checklist to see how well your project is progressing. The assessment looks at where the project is in its life cycle and whether you are successfully managing scope, risks, issues, communications etc. (NB the assessment does not look at the actual deliverables being produced, it focuses on processes.)

Project Title:				
Project Manager/Team Members				
Where is the project in its lifecycle?	Initiation?	Planning?	Implementation?	Closure?

Are there concerns with the Project Management Processes?			
	Yes	**No**	**Specific Comments**
Initiation			
o Project Purpose & Justification			
o Stakeholder Needs Analysis			
o Project Objectives			
o Generation and evaluation of alternatives *(if applicable)*			
o Project Governance Structure			
o Project Vision Statement *(if applicable)*			
o Project Proposal			
Planning			
o Project Scope *(Broad Scope, WBS)*			
o Project Time *(activity duration estimation, scheduling, dependencies, milestones, etc)*			
o Risk Analysis			
o Quality Schedule			
o Communications Plan			
o Governance/Roles & Responsibilities			
o Procurement (Human Resources; Goods & Services)			
o Budget			
o Project Plan			
Implementation			
o Governance (including managing Stakeholders)			
o Team Management			
o Managing Variance/Change			
o Project Reporting (eg Status Reports)			
o Managing Communications			
o Records			
Closure			
o Commissioning			
o Handover			
o Evaluation			
Overall Comments & Recommendations			

PROJECT MANAGEMENT GLOSSARY[1]

Activity – An element of work performed during the course of a project. An activity normally has an expected duration, expected cost, and expected resource requirements. Activities can be subdivided into tasks.

Assumption – Factors that, for planing purposes, are considered to be true, real, or certain. Assumptions affect all aspects of project planning and are part of the progressive elaboration of the project. Project teams frequently identify, document, and validate assumptions as part of their planning process. Assumptions generally involve a degree of risk.

Baseline – This is a snapshot or a point in the project that indicates original content and stage reached and used as the basis for measuring progress against the plan. The original approved plan.

Business Case - A document, which justifies the project in relation to its potential impact on the university and the return on investment. A business case might include feasibility studies and a Project Definition or Charter, including a preliminary or high level Project Plan.

Business Benefits Review - A review which is conducted at least one year after the handover of the project to assess the benefits of the project in relation to the strategic goals of the organisation.

Champion - Paves the way when things get rough. Usually a senior person who has influence in the organisation and supports the project.

Closure phase - The final phase of a project. It usually comprises handover, commissioning and project evaluation.

Constraint – A known fact that will influence how the project is planned and managed. A constraint is a given factor that is outside the scope of the project manager's control and which will force project actions to work around it.

Contingency Planning – The identification of alternative means for achieving project objectives. Contingency planning is especially useful as an outcome to the identification of project risk and the analysis of its effect on the project, usually resulting in the development of a management plan that identifies alternatives to be used if specified risk events occur.

Critical Path – The series of activities that determines the duration of the project: the sequence of activities that must be completed on schedule for the entire project to be completed on schedule. It is the longest duration path through the schedule. If an activity on the critical path is delayed by one day, the entire project will be delayed by one day (unless another activity on the critical path can be accelerated by one day).

Customer/Client - The persons or group that are the direct beneficiary of a project or service. The people for whom the project is being undertaken. (Indirect beneficiaries are probably stakeholders.)

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[1] Definitions adapted from:

- http://www.tenstep.com/90.1Glossary.htm
- UTS Project Management Program Notes
- http://www.projects.uts.edu.au/glossary.html
- Russell, Lou (2000) Project Management for Trainers, American Society for Training & development, USA
- PMI (2000). A Guide to the Project Management Body of Knowledge (PMBOK ® Guide). Pennsylvania USA, Project Management Institute

Deliverable - A deliverable is any measurable, tangible, verifiable outcome, result or item that is produced by the project. These can be documents, plans, computer systems, buildings, aircraft, etc.

Duration - Duration is the amount of time from the beginning of the activity to its completion. Duration has a direct effect on the schedule. Usually expressed as workdays or workweeks.

Effort - Effort or resource time is the amount of time required for the people to complete an activity. Effort is directly related to the cost of the time expended on the project.

End-user- The individuals who will actually use the product or outcomes of the project.

Exclusion – What the project is not attempting in the work, or the activities/outcomes that will not form part of the project objectives. Exclusions are things that don't form part of your project but have an influence on whether or not you can successfully achieve your objectives.

Functional - A functional description in this sense states what the product is expected to do or perform - its functionality.

"Fuzzy" projects – see Soft Projects

Gantt chart – A graphic display of schedule-related information. Activities are listed down the left side of the chart, dates are shown across the top, and activity durations are shown as date-placed horizontal bars.

Goal - The word "goal" refers to the over-arching reason for creating the project. It can be likened to the concept of project purpose or vision and often develops out of the organisation's strategic planning process. In this text it differs from the term "objectives" which are measurable, shared and agreed project outcomes.

Implementation phase - In this phase the project is executed and controlled against the plan. It is when the deliverables of the project are constructed, built or achieved and verified.

Initiation phase - The first phase of a project life cycle during which the viability of the project is assessed and the project objectives are defined. The outcome of the Initiation Phase is the Project Proposal (also known as the Scope Definition).

Issue - An issue is a major problem that will impede the progress of the project and cannot be resolved by the Project Manager and project team without outside help.

Issues log (Risk log) - A list of issues and risks that arise during the implementation of the project. As the issue or risk is triggered it is entered in the log and managed until it is closed to the satisfaction of key stakeholders.

Life Cycle - This term refers to the process used to build and support the deliverables produced by the project. This is the span of the project from its initiation through to closure.

Methodology – A project management methodology is a set of inter-related phases, activities and tasks that define the process from the start of a project through to its completion. AN agreed methodology allows for uniformity and consistency in the way projects are managed and is generally specific in nature rather than generic.

Milestone - A milestone is a scheduling event that signifies the completion of a major deliverable or a set of related deliverables. A milestone, by definition, has duration of zero and no effort. There is no work associated with a milestone. It is a flag in the Project Schedule to signify that some other work has completed. Usually a milestone is used as a project checkpoint to validate how the

project is progressing and revalidate work. Milestones are also used as high-level snapshots for management to validate the progress of the project. In many cases there is a decision that needs to be made at a milestone. However, the milestone is not usually based on the calendar. It is usually based on the completion of one or more deliverables.

Network – A network diagram depicts the sequence of the activities from the WBS in a rough chronological order as well as the relationships and dependencies between the activities. Often referred to as a PERT chart.

Objective - A concrete statement describing what the project is trying to achieve. The objective should be written at a low level, so that it can be evaluated at the conclusion of a project to see whether it was achieved or not. A well-worded objective will be **S**pecific, **M**easurable, **A**ttainable/Achievable, **R**ealistic **T**imebound and **A**greed (SMARTA).

Planning phase - Follows the initiation phase and is where the project is planned in detail. This phase includes all of those activities that further develop and define the components of the project plan. The conclusion of this phase results in a complete project management plan and sees a further go/no go decision being made prior to the actual commencement of the project.

Post Project Review - Reviews the project processes and their impact on delivery of the project objectives. Should take place as close to the handover of the project as possible.

Precedence network - Time scheduling tool created by sequencing activities or tasks according to dependency upon the completion of other tasks in the network. Task dependencies are indicated by arrows, which reveal precedence paths through the network. See Critical Path.

Program – A group of related projects managed in a coordinated way. Programs may include an element of ongoing work. A program is the umbrella structure established to manage a series of related projects. A Program is a group of related projects that are managed together. The program does not produce any project deliverables. The project teams produce them all. The purpose of the program is to provide overall direction and guidance, make sure the related projects are communicating effectively, provide a central point of contact and focus for the customer and the project teams and determine how individual projects should be defined to ensure all the work gets completed successfully.

Project – A set of interrelated activities designed/undertaken to achieve a common/specific goal. A project has a specific begin date and end date, specific objectives and specific resources assigned to perform the work. A Project Manager has overall responsibility and authority over a project. When the objectives are met, the project is considered complete. PMBoK defines a project as " a temporary endeavour to create a unique product, service, or result."

Project Charter- See Project Proposal.

Project Definition – see Project Proposal.

Project Manager - The person with authority to manage a project. This includes leading the planning and the development of all project deliverables. The Project Manager is responsible for managing the budget and Project Schedule and all project management procedures (scope management, issues management, risk management, etc.).

Project Phases- Projects are divided up into phases for monitoring and control. The phases provide GO/NO GO points at which the project may be terminated or approved to carry on to the next phase. A project may have any number of phases. The number is determined by the needs of the project for review, control and allocation of funding. The usual minimum number of phases is four - Initiation, Planning, Implementation and Closure.

Project Plan – This is a formal, approved document used to guide both project implementation and project control. The primary uses of the project plan are to document planning assumptions and decisions, to facilitate communication among stakeholders, to achieve a common understanding and to document approved scope, cost, schedule baselines, risk, quality, human resources and procurement requirements.

Project Proposal-The end product of the initiation phase of the project in which the nature of the project is defined.   This document formally authorises the existence of the project and it provides the project manager with the authority to apply organisational resources to project activities. The Project Proposal document provides input to the Project Plan.

Project purpose -The over-arching reason for creating the project. It can be likened to the concept of project goal or vision and often develops out of the organisation's strategic planning process. In this text it differs from the term "objectives" which are measurable, shared and agreed project outcomes.

Project Team - The project team consists of the full-time and part-time resources assigned to work on the deliverables of the project, which will help achieve the project objectives. They are responsible for
  - Understanding the work to be completed
  - Planning out the assigned activities in more detail if needed.
  - Completing assigned work within the budget, timeline and quality expectations
  - Informing the Project Manager of issues, scope changes, risk and quality concerns
  - Proactively communicating status and managing expectations

The project team can consist of human resources within one functional organization, or it can consist of members from many different functional organizations. A cross-functional team has members from multiple organizations. Having a cross-functional team is usually a sign of your organization utilizing matrix management.

Risk - There may be external circumstances or events that must **not** occur for the project to be successful. If you believe such an event is likely to happen, then it would be a risk. (Contrast with the definition of an assumption.) Identifying something as a risk increases its visibility, and allows a proactive Risk Management Plan to be put into place. If an event is within the control of the project team, such as having testing complete by a certain date, then it is not a risk. If an event has a 100% chance of occurring, then it not a risk, since there is not 'likelihood' or risk involved. (It is just a fact). Examples of risks might be that 'Reorganization in the customer organization may result in key people being reassigned...' or 'The new hardware may not be able to handle the expected sales volume...'

Risk Management – Risk management is the systematic process of identifying, analysing and responding to project risk. It includes maximising the probability and consequences of positive events and minimising the probability and consequences of events adverse to project objectives.

Schedule – This is the planned dates for performing activities and/or meeting milestones. The Project Schedule specifies the duration, earliest/latest start and finish date, the logical relationships between activities (dependencies) and the resources. The schedule relates tasks to time and to the order of events.

Scope - Scope is the way that we describe the boundaries of the project. It defines what the project will deliver and what it will not deliver. For larger projects, it can include the organizations affected, the transactions affected, the data types included, etc.

Scope Definition- A detailed, itemised statement of what is in the project and may include reference to functionality and quality standards. (Incorporated into the Project Proposal)

Soft projects - The term "soft projects" has been coined to describe projects for which goals are difficult to define clearly at first and for which objectives might be subject to flux during the implementation of the project, often in response to changing requirements of the organisation, the external environment and key stakeholders.

Soft-systems thinking- Projects for which goals are difficult to define have benefited from a development in systems thinking which take into account aspects of complexity and uncertainty.

Sponsor- (Executive Sponsor and Project Sponsor) - The person who has ultimate authority over the project. The Executive Sponsor provides project funding, resolves issues and scope changes, approves major deliverables and provides high-level direction. They also champion the project within their organization. Depending on the project, and the organizational level of the Executive Sponsor, they may delegate day-to-day tactical management to a Project Sponsor. If assigned, the Project Sponsor represents the Executive Sponsor on a day-to-day basis, and makes most of the decisions requiring sponsor approval. If the decision is large enough, the Project Sponsor will take it to the Executive Sponsor.

Stakeholder - Specific people or groups who have a stake in the outcome of the project. Normally stakeholders are from within the organisation and could include internal customers, management, employees, administrators, etc. A project may also have external stakeholders, including suppliers, investors, community groups and government organization.

Steering Committee - A Steering Committee is usually a group of high-level stakeholders who are responsible for providing guidance on overall strategic direction. They do not take the place of a Sponsor, but help to spread the strategic input and buy-in to a larger portion of the organization. The Steering Committee is usually made up of organizational peers, and is a combination of direct customers and indirect stakeholders.

Success factors - These derive from the definition of the project "objectives" and link the needs of key "stakeholders" and the requirements of the "end users."

Value Management - Structured and analytical process, which seeks to achieve value for money by providing all the necessary functions at the lowest total cost consistent with, required levels of quality and performance. The value management process usually requires that all key stakeholders attend at structured workshop sessions.

Work Breakdown Structure (WBS) – A work breakdown structure is a hierarchical chart that

helps you identify all the activities that need to be undertaken to complete the project.

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