BSB41507 Certificate IV in Project Management
Open Colleges code 30012A

Student Workbook

› Apply scope management techniques (BSBPMG401A)
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Getting Started

About the unit

The unit BSBPMG401A Apply Scope Management Techniques describes the performance outcomes, skills and knowledge required to contribute to the control of a project's scope by assisting with the identification of objectives, deliverables, constraints, assumptions and outcomes; and by applying controls once the project has commenced.

Sections in this student workbook

This Student Workbook consists of the following sections:

Learning

This section provides background information to support this unit of competency, guidance on use of the required text and where to find further information. It may also include case studies to illustrate the unit of competency in practice.

Throughout the learning material the following icons may appear. The icons indicate when you are required to undertake an activity, refer to the required text, do research, watch a video or complete a case study. The icons are:

- **Learning Activities**
  Learning activities are tasks and exercises that assist you in gaining a clear understanding of the content in this workbook. It is important for you to undertake these activities, as they will enhance your learning.

- **Case Studies**
  Case studies help you to develop advanced analytic and problem-solving skills; they allow you to explore possible options and/or solutions to complex issues and situations, and to subsequently apply this knowledge and these newly acquired skills to your workplace and life.

- **Discussions/Live chat**
  Whether you discuss your learning in an online forum or in a face-to-face environment, discussions allow you to create and consolidate new meaningful knowledge.

- **Readings**
  A reference will refer you to a piece of information that will assist you with understanding the information in the Student Workbook. References may be in a textbook, in your workplace or on the internet.
Getting Started

Reference
A reference will refer you to a piece of information that will assist you with understanding the information in the Student Workbook. References may be in a textbook, in your workplace or on the internet.

Self-check
A self-check is an activity that allows you to assess your own learning progress. It is an opportunity to determine the levels of your learning and to identify areas for improvement.

Appendices
The Appendix section located at the back of the student workbook may provide templates, examples or other sample documents to help illustrate some aspects of the unit of competency.

Templates
Helpful templates from the appendices of your Student Workbook are available in Word format under Additional Resources in OpenSpace.

References
Throughout the student workbook you will be directed to suggested reading and websites for additional information. Given that web addresses can change you will need to cut and paste the link into your Internet address line. If the link does not work use search tools to find updated links.

Glossary
A glossary of terms is included in the Student Workbook as an Appendix when required.

Compiling your own resources
As you work through this student workbook, compile a resource kit (electronic and/or paper-based), which you can use to assist with your learning. This could include, for example, information that you print out or ‘bookmark’ from websites and research, resources you download, newspaper articles about project management, specific policies or procedures and answers to completed activities.

What you decide to put in your resource kit is up to you. Over time, it can become your resource companion containing information about current project management practice and ideas.

The resource kit is for your own professional development and is different to any portfolio or file that you might keep for assessment purposes, although some resources may be included in both.
Choice of Assessment

In each Unit of Competency there are assessments for students who are working which require the compilation of a portfolio of documents from projects you may be involved with at work as well as answering questions relating to those projects. For students who aren’t currently working or whose work doesn’t involve them in projects, there are different assessments which are based on applying project management techniques to a hypothetical case study. The assessments for the different types of student are clearly marked. Therefore students have a choice of which assessment they will complete. The choices are:

1. For those students currently employed you may use a current or completed project from your workplace or
2. For those students who are not employed you will need to complete the Case Study assessment.

Both assessments are located in the Assessment Section on OpenSpace. Please make sure that you complete the correct assessment according to your choice.

Assessment procedures and advice

Students are expected to refer to the following information, in conjunction with information regarding assessment, at Open Colleges published in “Open Colleges Assessment Policy and Procedures” available via the Open Colleges website at http://www.opencolleges.edu.au/policies.aspx#PoliciesProcedures

You may download an electronic copy of your assessment(s) from your unit on OpenSpace.

Presentation of Assessment Tasks

Assessment tasks should be submitted online via OpenSpace. You should present all your written work (unless otherwise instructed) so that:

- it is easily printed on A4 size paper
- the total word count indicated in each assessment is acknowledged
- there is at least a 2 cm margin around the text on each page for comments from the assessor.
Submission details

All students are required to submit assessments (appended with any required evidence) via the unit on OpenSpace. If you are unable to submit your assessments online, you can print and post your assessment to:
Open Colleges
PO Box 1568
Strawberry Hills, NSW 2012.

Please ensure that you use the Open Colleges Assessment Cover Sheet (available in the Student Lounge in OpenSpace). Where assessments are submitted by post, grades and feedback will be released in OpenSpace.

Assessment file-naming convention

Please ensure that you use the following file-naming convention when you save your assessment tasks in MS Word.

1. Your file should be named and saved to your computer’s hard drive using your:
   student number assessment number.doc

For example:
12345678_21850a_01.docx or
12345678_21888a_01.doc

Your student number allows your assessor to identify to whom the assessment belongs and the assessment number indicates which assessment is being submitted.

Tips to study success

Below are some links that may help you to improve your study skills:

- Webspiration – free online mind mapping tool. Watch a video on how to use Webspiration on YouTube http://www.youtube.com/watch?v=ToEXLbQC_F8&feature=related
- Example of a mind map at MindMeister – http://www.mindmeister.com/23290325/western-philosophy
- Bubbl-us – free online mind mapping tool https://bubbl.us/
- Mind 42.com – free online mind mapping application http://mind42.com/signin
- Study Stack – Online flash cards: use the ones available or create your own http://www.studystack.com/
Getting Started

- Basic Study Skills - ALISON Online Training Course – http://alison.com/courses/Study-Skills
- Math Help and Tutorials by Subject and/or Topic – http://math.about.com/od/mathhelpandtutorials/Math_Help_and_Tutorials_by_Subject_and_or_Topic.htm
- Computer basics – http://www.gcflearnfree.org/computers
- Writing essays – http://www.greatsource.com/iwrite/educators/e_forms.html
  (University of Canberra)

Suggested Reading


You do not need a copy of this text to complete the learning. The suggested reading provides supplementary information that may assist you in completing this unit.
Introduction

About project scoping

Project scoping can be described as the framework, or scaffold for the management and implementation of a project. Scoping sets a boundary around what the project is about, and, equally importantly, what the project is not about. In other words, effective scoping ensures that:

- project activities are appropriately authorised
- projects do not stray from their goals and objectives
- projects do not run over time or budget.

Effective project scoping will ensure that the project is appropriately authorised, that the products are determined, and the processes to develop them are identified and mapped onto a detailed pathway for the life of the project.

This Student Workbook is about providing you with opportunities to practice and demonstrate skills and knowledge required to contribute to scope definition and apply project scope controls.
Project scoping may start well before a project is approved and will continue throughout the life-cycle of the project. For projects that happen as a result of a tendering process, scoping will commence when the organisation is considering whether or not to be involved in a tender. Similarly if there are a number of potential projects under consideration and a priority listing needs to be drawn up for budget purposes, a scoping exercise for each project would be necessary as a basis for decision making.

The management of project scoping is usually performed by the project manager; however, it is possible that a specialist consultant or interim manager may be involved in the initial scoping. The tasks of identifying project deliverables and measurable outcomes, contributing to the development of a scope management plan and applying monitoring, compliance and review techniques are usually divided between members of the project team and are carried out under the direction of the project manager who takes responsibility for leading the project team in defining and managing the scope of the project and will normally remain responsible for overseeing scoping activities throughout the life of the project. In a large project, the manager may need to delegate responsibility for the management of day-to-day scoping exercises to a member of the project team, who would report regularly to the project manager on their work.

The need for flexibility and adaptability

While general rules and guidelines can be applied to project scoping, no two projects are exactly alike, and you will need to be able to adapt procedures to suit the particular circumstances. In a project with tight timelines and a limited budget, the project manager and team may need to reduce the effort put into certain stages of scoping. Have a look at Case Study 1 in the Case Studies section within the Appendices. This Case Study is about planning for the Asian Tsunami Cricket Match. All of the planning and organising for this major event was done in 15 days.

How do you think that this would affect the job of initial project scoping and scope management? Everything must have been done on the run, and clearly the success of the event would have relied heavily on team work and cooperation between a number of organisations.

The need for constant review of project scope

Because projects seldom proceed according to the original plan, it is very important that the activities of the team are carefully monitored against the planned project deliverables and the specified work activities, established at the outset of the project. Any changes to the original plan should be identified and checked with the higher project authority and other stakeholders as required. Changes need to be recorded and the scope management plan adjusted accordingly.

This constant monitoring and checking role means that the person in charge of managing the scope of a project needs to have well developed interpersonal skills and to be able to relate positively to the wide range of people involved in the project.

Your role as a team member will be made easier and more enjoyable if you have good teamwork skills and can readily communicate confidently and appropriately with team members, the project manager and stakeholders.
Definitions and Main Activities Involved In Project Scoping

Project scoping is concerned with mapping a detailed pathway for the project, from the point at which a project is first considered, through to the final sign off. The key activities involved in project scoping are:

- identifying objectives and outcomes and the resources required to achieve these
- initial consultation with stakeholders to confirm a shared understanding about the project’s objectives
- ensuring that the project is authorised so that the project receives the resources and effort necessary for successful implementation
- defining the scope of the project in terms of objectives, deliverables, work activities, constraints and assumptions
- establishing the measurable project outcomes to enable a quantified evaluation of project performance
- developing a scope management plan
- implementing the agreed scope management procedures and processes
- monitoring changes to the scope of the project according to change control procedures within established time, cost and quality constraints so that project objectives are met
- review project progress and record results
- identify issues, recommend improvements and pass on documented recommendations to higher project authorities for application in future projects.

The Relationship of Project Scoping and Project Phases

As the list of activities above suggests, project scoping is important at all phases of project operations, not just at the start. The major scoping activities in each phase are outlined below:

1. **Proponent phase – that is, before a project proposal is submitted (this is also called the initiation/concept phase)**
   
   During this phase of the project the major activities include identifying the project objectives and the resources required to achieve them. This part of the project scoping may be undertaken by a project manager/team other than those for the role of manager for the project in question. This will depend on the scale of the organisation and the project(s) for which proposals are submitted. For example, a large building company may employ a team whose responsibility is to assess the viability of a potential project, evaluate likely risks, estimate costs and resource requirements and make a recommendation to project authorities about whether or not to pursue the project.
2. Approval phase – once a project is approved (the planning/development phase)
If a project manager and team have not previously been appointed (for example where a specialist proponent/concept phase manager and team have been employed), then this will happen immediately after the project is approved. The first task of the new project manager is to secure authorisation for the project if this has not been done. If authorisation has already been finalised, the project manager will need to get copies of the documentation as the basis for their next task – briefing the project team.

During the approval phase the project manager will consult with the key stakeholders and ensure that everyone is in agreement about the objectives and deliverables for the project and carry out the following planning activities:

> define the work activities needed to meet objectives and deliverables
> identify the constraints and assumptions under which the project will operate, including timelines, budget and other resources available to the team
> develop a statement of quantifiable project outcomes as the basis for evaluation of project performance
> develop the scope management plan.

3. Implementation phase – when the project is underway (the delivery phase)
Scoping functions carried out during this phase include implementing the agreed scope management procedures and processes and reviewing project progress. As progress is reviewed, the project manager will also be monitoring changes to the scope of the project and implementing the agreed change control procedures to ensure that outcomes and deliverables continue to be met under changed circumstances.

4. Completion phase - review (the finalisation phase)
During this phase the project manager will lead the team in conducting a final review of project processes and evaluating the extent to which the project achieved it objectives and delivered agreed outcomes/products. The review and evaluation will identify issues, recommend improvements and pass on documented recommendations to higher project authorities for application in future projects.

Responsibilities for project scope activities

<table>
<thead>
<tr>
<th>PERSONNEL</th>
<th>RESPONSIBILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project manager</td>
<td>Leads the project team in defining and managing the scope of the project, including refining the scope progressively throughout the project, monitoring scope, identifying ‘scope creep’ and monitoring and reporting to higher authorities on changes</td>
</tr>
<tr>
<td>Authorizing agent/agency</td>
<td>Selects and briefs the project manager, authorising the project and endorsing the scope management plan, receiving and analysing review reports and meeting with the project manager at agreed critical points during the project. The authorising agent may also be required to step in, in the case of a crisis in the project, or in a dispute resolution role.</td>
</tr>
<tr>
<td>Project team member(s)</td>
<td>Contribute to the scope definition process including the development of the scope management plan; work as a team under the leadership of the project manager to apply the project scope controls; participate in project review and evaluation activities</td>
</tr>
</tbody>
</table>
Stakeholder involvement in project scoping

A stakeholder is any person or organization who may be positively or negatively affected by the activities involved in the project and its outcomes and products.

Stakeholders play an important part in communicating their expectations to the project manager and team and receiving reports from the project manager on the management of project scope to ensure that change controls are maintaining the project outcomes in accordance with stakeholder interests. A project is considered successful when the needs of the stakeholders have been met or exceeded. This means that you need to be clear on who your stakeholders are and ensure that they have been consulted in the project scoping stage. Here are some of the principle stakeholders to include:

- The project manager
- The customers (both internal and external) who receive the deliverables
- The people doing the work for the project
- The project sponsor (who provides the money and resources for the project).
Carrying out scope definition during project start-up

1. Read Case Study 4.
2. Now reflect on the scenario below, putting yourself in the role of a member of the Makeovers-R-Us team

Makeovers-R-Us is a small company – just two owner/directors – Gino and Andrea, who divide the work of project management between them, and two part-time team members. When the company gets a large project they contract additional workers. Gino is managing the renovation of Cecile’s kitchen and has asked you to help with the initial scope definition. Based on Cecile’s specifications David has prepared the following list of instructions:

1. Work out how much kitchen equipment has to be stored – we’ll need to know how many pieces/sets of crockery; and the dimensions of platters saucepans etc to estimate packing needed
2. Check out the available storage in Cecile’s house and estimate what can be stored on site.
3. Measure the laundry – can the fridge be stored in there?
4. Measure the lounge room and study – give me a recommendation on the best room to set up as a temporary ‘kitchen’
5. Identify a small selection of crockery and cutlery for location in the temporary kitchen and work out what to put them in – also work out where to put the microwave
6. I need a solution for the cat! Apparently she will take off if the doors are left open, but panics destructively if she is locked in the bedroom!! Perhaps a cage?

The information you collect and analyse will contribute to the overall project scoping and enable David to prepare a costed project plan including recommendations to Cecile on the logistics of coping without a kitchen during the renovations – including a solution to the cat issue!

To complete this exercise you could use your own home – or that of a friend as a model. A good way to present the information back to David would be in the form of a table, with the issues/questions listed on the left and your answers and recommendations on the right. Leave some additional rows in the table in case you think of issues David has overlooked.
Topic 1: Contributing to scope definition

Learning outcomes covered in contributing to scope definition include:

- identifying the project deliverables – these are the products and services defined within the project scope
- identifying measurable outcomes – this means being able to state the outcomes of the project so that project performance can be measured
- contributing to the development of a scope management plan. This will involve working under the direction of the project manager and perhaps working with other team members to develop a plan that will enable the manager and team to monitor the project and ensure that it does not suffer from ‘scope creep’ and that changes to scope are identified, agreed and managed.

1.1 Identifying project deliverables

Project deliverables are the products and services defined within the project scope. The major deliverables may be easy to identify during scope definition if they are clearly specified in statements of aims and objectives and details in a contract with the project client. However, there may be other smaller un-stated products and services contained within the major deliverables.
For example in **Case Study 2: Fred’s Sheds**, the major tasks ahead of Fred, who has just won the contract is to build a shed in three weeks on a budget of $40,000. Each of these tasks can be further broken down, for example:

Building the shed involves:

- finding and contracting suitable subcontractors
- finalising the colour and design
- preparing the site for construction
- undertaking the construction in compliance with building regulations
- making good – including rubbish removal and handover.

Meeting the budget involves accurately costing all materials and labour and may also involve finding ways to economise without sacrificing quality.

Meeting the timeline involves:

- breaking each of the deliverables and project tasks into manageable components
- careful planning of all project activities so that each activity can be completed before subsequent activities
- ensuring that materials are delivered when needed and contractors are locked into a schedule for their part of the construction.
Identifying project deliverables

Select two of the case studies in the Case Studies within the Appendices. Read these case studies and identify the deliverables for each.

For each of the products and services to be produced by the project, identify the component deliverables that will contribute to the production of the final products and services.

An example of how you might present this information is provided in the table below using the Fred’s Sheds case study.

<table>
<thead>
<tr>
<th>MAJOR DELIVERABLE</th>
<th>COMPONENT DELIVERABLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building the shed</td>
<td>Finding and contracting suitable subcontractors</td>
</tr>
<tr>
<td></td>
<td>Finalising the colour and design</td>
</tr>
<tr>
<td></td>
<td>Preparing the site for construction</td>
</tr>
<tr>
<td></td>
<td>Undertaking the construction in compliance with building regulations</td>
</tr>
<tr>
<td></td>
<td>Making good – including rubbish removal and handover</td>
</tr>
<tr>
<td>Meeting the 3 week deadline</td>
<td>Identification of all of the component tasks and activities</td>
</tr>
<tr>
<td></td>
<td>A schedule of activities</td>
</tr>
<tr>
<td></td>
<td>A contractor schedule</td>
</tr>
<tr>
<td></td>
<td>A materials delivery schedule</td>
</tr>
<tr>
<td>Meeting the budget of $40,000</td>
<td>Costs for all materials and labour</td>
</tr>
<tr>
<td></td>
<td>Allowance for unforeseen cost items</td>
</tr>
<tr>
<td></td>
<td>Signed agreement with Mr Jones about the materials to be purchased</td>
</tr>
<tr>
<td></td>
<td>Payment schedule</td>
</tr>
</tbody>
</table>

1.2 Identifying measurable outcomes

Performance indicators are statements that indicate what needs to be done to enable the project to achieve its objectives and deliver on agreed products and services. Performance measures enable the project manager and team to measure outputs against benchmarks that have been established and agreed at the start of the project, and to report to project stakeholders on the extent to which the project has managed to meet its target outcomes. Performance measures can be applied prior to the commencement of the project, during the project and on completion. As the project manager you will be responsible for ensuring that appropriate plans are in place to establish indicators and measure performance. Along with the definition of the project scope, the review and evaluation plan will form part of the overall scope management plan.
Depending on when a project manager is appointed, the performance indicators and measures may already have been decided, and the project manager’s task is to ensure that appropriate strategies are in place for team members to review progress and evaluate the final outcome. In the case of a medium sized project it is likely that the project manager will be responsible for establishing performance measures and that team members will participate in this process.

The identification of measurable outcomes involves first knowing what measures or criteria will be used to measure how well a project has kept to the agreed work plan, or methodology; and how well the project has performed in meeting agreed outcomes. There are two types of performance measures:

› one that measures whether the project is under control

› one that measures the project’s success.

For example, to measure the success of the Tsunami Benefit Cricket Match (Case Study 1), Cricket Australia may have established a number of performance indicators depending on the agreed goals. Clearly the major goal was to raise money for the Tsunami relief effort; and to reach this goal involved achieving other outcomes including:

› maximum media coverage,

› encouraging organisations to provide services free of charge,

› ensuring the maximum possible number of people attended the match.

These performance indicators and related measures for the Tsunami Benefit Match might be documented as follows:

<table>
<thead>
<tr>
<th>OBJECTIVE</th>
<th>PERFORMANCE INDICATOR</th>
<th>PERFORMANCE MEASURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. To raise funds for the global tsunami relief effort</td>
<td>Net funds raised after all costs deducted</td>
<td>Target of $10,000,000 net proceeds</td>
</tr>
<tr>
<td></td>
<td>Minimise costs through service provider donation</td>
<td>Target: all service provider to donate 75% of costs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Target attendance of 50,000</td>
</tr>
<tr>
<td>2. To raise awareness in the community of the plight of tsunami victims</td>
<td>Media coverage during the 14 day planning period, broadcast of the match and coverage after the event</td>
<td>Coverage in seven capital city dailies each day</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Front page coverage of the match in all dailies</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Feature in sporting sections of 3 capital city dailies</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Broadcast on Nine Network</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Coverage on CNN news</td>
</tr>
<tr>
<td>3. To attract major sponsorship</td>
<td>Sale of corporate boxes</td>
<td>Target of $5,000,000 sponsorship</td>
</tr>
<tr>
<td></td>
<td>Sale of naming rights</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sale of advertising space</td>
<td></td>
</tr>
</tbody>
</table>

Depending on the scale of the project, measures can be applied at three stages:

› pre-project measurements applied during the set up phase to generate the base-line indicators

› measurements taken during the project to check on whether key performance milestones are being met
post-project measurements that reveal whether the completed project has delivered the specified project outputs and that the outcomes are realised.

For example in a relatively small project, such as the renovation of Cecile's kitchen, by Makeovers R Us (see Case Study 4) it would be likely that the project manager would establish one set of performance measures based on the specifications provided by Cecile when she contacted Makeovers R Us to see if they would tender for the contract. Gino, the co-owner and project manager had come up with the following set of performance indicators and measures:

Performance Indicators and measures for kitchen renovation

<table>
<thead>
<tr>
<th>PROJECT OBJECTIVES AND DELIVERABLES</th>
<th>PERFORMANCE INDICATORS</th>
<th>PERFORMANCE MEASURES</th>
</tr>
</thead>
<tbody>
<tr>
<td>To complete the renovation within 5 weeks commencing 1 May 20XX</td>
<td>Timelines met</td>
<td>Client’s timeline exceeded by two weeks</td>
</tr>
<tr>
<td>To ensure that Cecile’s domestic life is disrupted as little as possible during the renovation. This will include organising temporary facilities to make coffee and heat meals during the renovation, storing kitchen fittings where Cecile can access those needed during the renovation, and making sure the cat doesn’t ‘escape’ or constitute a hazard for the tradespeople.</td>
<td>Client agreement to proposed plan, Definition of scope, Client feedback during project, Tradesperson and Cecile’s feedback on the cat</td>
<td>Signed agreement, All scope changes identified and managed, 100% satisfaction with arrangements during renovation, measured weekly, Zero complaints from tradespeople re. cat’s intrusion; from Cecile re. state of mind</td>
</tr>
<tr>
<td>A costed plan for the new kitchen that specifies: Colour scheme; paint brand and tones; floor coverings; layout; new fittings and fixtures;</td>
<td>Client agreement to one of three costed options presented</td>
<td>Signed agreement, Plan carried out and reviewed</td>
</tr>
<tr>
<td>An agreed timeline for the renovation;</td>
<td>Project schedule, Client agreement</td>
<td>Timeline monitored and changes agreed</td>
</tr>
<tr>
<td>An agreed team of tradespeople and suppliers;</td>
<td>Client agreement</td>
<td>Signed agreement</td>
</tr>
<tr>
<td>Temporary kitchen facilities</td>
<td>Client agreement to proposed arrangements</td>
<td>Client expresses satisfaction with temporary arrangements when the renovation is underway.</td>
</tr>
<tr>
<td>A strategy for looking after the cat</td>
<td>Client agreement to proposed strategy</td>
<td>Strategy (providing a wire run on the balcony that the cat can access from the bedroom) proves successful in confining cat</td>
</tr>
<tr>
<td>A fully renovated kitchen</td>
<td>Client feedback on conclusion of each stage of renovation, Client feedback on completion, Project team evaluation of effort</td>
<td>100% client satisfaction with each stage of renovation and final result, On time; on budget</td>
</tr>
</tbody>
</table>
CASE STUDIES

Identifying performance measures
Using the examples of performance indicators and measures provided in the notes above, read "Case Study 2" and identify two performance indicators and a performance measure related to each for the project of building Mr Jones’ shed.

Examples of the deliverables and their components for this project are contained in the notes for Case study 2 above.

A performance indicator for “Finding and contracting suitable subcontractors” would be:

> “All required subcontractors found”.

A performance measure could be:

> “Contracts finalised and signed two weeks before work commences”.

1.3 Contributing to the development of a scope management plan

The Scope Management Plan is a subsidiary part of the overall project plan. It brings together all of the elements involved in project scoping and describes how and when scope will be monitored and how scope changes will be evaluated, processed and integrated into the project. The scope management plan will include a definition of the project scope (for example by completing a scope definition checklist and attaching it to the plan) and will detail all the steps to be taken to manage scope throughout the project and integrate changes into the project. A scope management plan should include:

> An assessment of the expected stability of the project scope.

> A clear description of how scope changes will be identified and classified.

> A scope change control system that defines the process to approve and integrate change into the overall project. This will include the paperwork, tracking systems, approval levels, and the method of integrating the approved change into the overall project with a minimum of disruption.

> A description of how changes will be managed against the baseline and how they are integrated into the project.

> A plan for reviewing performance during the project and for evaluation on completion.

In this Student Workbook you will find a number of templates that your project team may use as part of the development of a scope management plan:

> Two example project overview statements, or scope proformas that provide a picture of the key elements of the project at a glance.
A project authorisation proforma: this template can be used to enable the person responsible for authorising the project to quickly check that all required steps are in place.

Scope definition checklist: this checklist performs much the same role as the project overview statement. The sample used in this Student Workbook asks a number of questions about the project. This makes it a useful tool for a project team to use in working through all of the elements that make up the project scope.

Scope management plan proforma: this proforma provides a means to record the work that has been done to scope the project and put scope management procedures in place. The documents listed on the template can be attached to the plan or the project team can store these documents elsewhere and note their location on the plan.

**LEARNING ACTIVITIES**

**ACTIVITY 1**

Comparing scope management plans
Different styles of proforma and template may be used for different types of project. Large and complex projects will involve more paperwork, and may also involve the use of more detailed and sophisticated proformas.

Ask a project manager who has been involved in managing project scope in both large and small projects if she/he could provide you with samples of the proformas used in projects of different scale and complexity. Collect two or three samples. Ask the project manager to explain their use of the proformas, and also to comment on the templates included in this Student Workbook.

Were there any major differences between the templates used in your workplace and those provided here? If so list the differences and identify the type of project to which the different proformas are best suited.

Implementing the scope management plan involves regular monitoring of all aspects of the project scope. Depending on the size and complexity of the project, a project manager may decide to delegate responsibility for monitoring to a senior member of the project team who would then report regularly to the project manager on the stability of and changes to the scope. Implementation of scope management is covered in more detail in the next section of this Student Workbook.
TOPIC 2 | Applying project scope controls
Topic 2: Applying project scope controls

The learning outcomes covered in this Topic address the work undertaken by project team member throughout the project, under the direction of the project manager to monitor project scope and measure performance. The key aspects of applying scope controls are:

- working within the agreed project management plan, using change control and performance measurement procedures
- monitoring project scope and reporting any project activities that do not comply with the agreed scope to the project manager
- identifying potential and actual scope changes through measurement of project performance
- reporting changes to the project scope
- participating in the review of project outcomes so that the effectiveness of scope management can be determined.
2.1 Working within a project management plan

Applying scope change procedures to monitor project scope

Monitoring project scope is an ongoing activity throughout the life of the project and an important activity in ensuring project success. This is not about avoiding changes to the scope of a project, but about being aware of potential changes and being able to systematically work through the implications of any change for the outcomes of the project.

The need for scope change can come from:

- an external event (a change in a governmental regulation or funding)
- a value-added change (a project may be able to take advantage of a technology which was not available when the project began)
- an error or omission in the product scope (e.g. the product requirements may have been incomplete)
- a request from the client
- project Team Members
- the availability of new technologies that offer the opportunity for value adding.

Obviously, all of the above are valid reasons for changing the scope of the project and must be addressed in a logical, consistent manner. Successful change control relies on ensuring that the project team and the client are clear about and in agreement on how changes to agreed scope will be processed. This is usually done by including a description of the agreed change control procedures in the project contract or letter of agreement. The following flowchart describes a typical change control process.
Changes to the scope of a project cannot simply be integrated into the project plan. What the flow chart shows are the strategies and tools used to control scope changes:

1. **Evaluation of the impact of the change.** If there is no impact on the project deliverables, budget or the schedule, then the change can be made and recorded. If the change to scope involves revising timelines, increasing the budget or modifying the deliverables, then the client and other stakeholders need to be informed and reach agreement on how to implement the change.

2. **Formalising agreements on the changes to scope.** This involves preparing a change order and having the change formally recommended by the project manager and approved by higher authorities and the client.

3. **Maintaining an issues register.** Where a change has been rejected, or a change that is approved will have negative effects – such as extending timelines, increasing costs or reducing effectiveness of outcome, then the change needs to be recorded in an Issues Register.
If these basic steps are followed then the project manager and team will always have the information needed to track progress and will also be in a position to make improvements to scope management by reviewing the record of issues.

The change approval process will depend on the nature and scale of the project, the scale of the change and the agreed procedures in place to manage scope. Small changes may be approved by the client; larger changes may require approval by a ‘Change Control Board’.

As a project team member you may be asked to take on responsibility for implementing the project’s change control procedure under the direction of the project manager. Key responsibilities will include:

- Participating in meetings to review the request for change, and taking notes on the discussion about the likely impact on the project plan and the outcomes of the evaluation.

- If the request for change is agreed, you will record changes to scope in the form of a ‘change order’ that describes the change in terms of its likely or known impact on the budget, timelines and deliverables. You should use standardised templates for this purpose to review, track and approve changes and to facilitate accurate communication amongst team members, clients and stakeholders.

- Ensuring Change Orders are approved by the client, this may mean meeting with the client yourself, or if this role is taken on by the project manager, ensuring that the client’s agreement is recorded.

- Ensuring that all stakeholders are informed of changes and that their response to the changes is recorded.

The Project scope control procedure is considered complete when implementation of an approved change request is verified or disapproved, change request is archived, and affected groups and individuals are notified.
Applying change control procedures

Read "Case Study 2" and then read the story below about what happened when Fred had secured the contract and started work.

Fred’s shed: addressing a change to project scope

Mr. Jones was very impressed with Fred’s tender to build the shed. Fred had managed to offer superior quality building materials and construction to heavy-weather construction standards, for just $3,000 above Mr. Jones optimum price. Further, Fred had guaranteed completion three weeks after Council approvals were through. The contract was signed and Fred immediately set to work on finalising the design to Mr. Jones specification.

When the design was submitted for approval, Mr. Jones asked if the size of the shed could be increased to enable him to also store his dinghy. Fred agreed on the spot, subject to a small adjustment to costs. Having already checked with his suppliers he was confident that he could get the larger size shed frame. In addition, Mr. Jones asked that Fred quote for an additional window at the rear of the shed.

Fred was confident that these changes would not be a problem but they would nevertheless have an impact on the plan, and on the overall costing, so he asked his administrator to review the changes and to complete a Change Order Form so there is a formal record of the changes requested and Fred’s response.

Your task is to complete the Project Change Order Form and submit to Fred for formal authorisation. A proforma Project Change Order Form is included in this Student Workbook.

Varying formal agreements

When significant changes to the scope of a project are negotiated the contract should be varied to reflect the new agreement. The variation may take the form of a replacement schedule to the contract; amended text in the contract that is initialled and dated by both parties; or a letter of variation that lists the changes, and is signed by the project manager and the client.

The important thing is to ensure that you inform the client of significant changes and provide an opportunity to discuss the potential impact of such changes before they are implemented. In the case of Mr. Jones request for changes to the specification for the shed, Fred would make the necessary changes to the building schedule and the budget and submit the amendments for Mr. Jones to sign.
Controlling ‘project creep’

Some amount of scope change is natural for a project. No project exists in a vacuum; the world around it keeps changing. It is common that shifts in the external business environment result in a valid need to change the project scope. The longer the project, the more likely this becomes. Scope management techniques will help you handle this effectively.

Many scope changes are not so natural though, and could be avoided. This insidious variety of change is not due to the business environment, but to problems with the original scope definition. By allowing these flaws to exist in the scope definition, you’re setting yourself up for scope changes down the road and for the project to drift away from its original purpose, and/or to over-run the original budget and schedule.

Scope creep can be a result of poor change control or lack of proper identification of the products and features required to bring about the achievement of project objectives in the first place.

2.2 Reporting on non-compliance and scope changes

The way in which issues and changes are reported will depend on the scale and complexity of the project, the likely impact of issues encountered and changes proposed and the number of people involved in the project. The Case Study below provides an example of the type of scope creep that may be encountered. Complete the activity in the Case Study to practice your skills in reporting on scope changes.
Writing a scope change report

“Case Study 3” provides details of a Request for Tender to produce a program and resources for the Training of Authorised Officers in a Metropolitan Public Transport System. The tender has been won by a small business unit in a TAFE Institute. The unit designs and publishes learning materials for the School of Community Services, Justice and Public Safety, of which they are a part, and draws on the services of consultant instructional designers, editors and graphic artists as required. The unit has four fulltime staff – a project manager, three full time curriculum specialists/writers and one administrator. The manager has seconded two teachers to work full time on curriculum development.

Read through the information provided in the case study and cast yourself in the role of project administrator who is responsible for monitoring the implementation of the project to ensure that scope changes are identified and reported as soon as possible. Now read the scenario below.

The project is about half way through the project timeframe of eighteen months. The curriculum design has been signed off by the Project Steering Group and the production of teaching and support materials is nearing completion. As the teaching and support materials are completed in draft form they are passed over to a Sub-committee of the Steering Group for review. This is proving to be a lengthy process as the members of the sub-committee sometimes do not get round to reading the materials until near to the sign off date, requiring meeting times and deadlines to be shifted. Thus far there been a four week extension to the timeline.

To date, the changes to deadlines have not threatened the success of the project, as you have been able to negotiate a small extension of time with the client. However, there is a major change looming: The union that covers ‘Authorised officers’ in the Public Transport System has successfully negotiated a change to the industrial award that will change the roles and responsibilities of Authorised Officers. This means that four of the units of competency need to be customised and the curriculum and training and support materials re-written.

The government department are not happy with the changes but agree that they will be made; the project contact person has contacted you to advise the team that significant changes will be necessary. He has asked that the project team works out how to make the changes in the minimum time and brings a proposal to the Project Steering Group for approval.

As the project administrator you have to advise the project manager about the impending changes. Write a brief report to the project manager and complete the section in the Project Change Order Form.
What did you include in your report? The project manager would need to know the following:

1. The fact that the change is fairly much unavoidable, because the roles of the ‘Authorised Officers’ have changed. The training materials will now need to cover the new roles.

2. That the client has asked for a report on the impact of the changes.

3. That the change involves re-writing four sets of curriculum and training materials.

This information can be conveyed in the proforma – see completed example below, however you may also decide to write a short memo reminding the project manager that the timeline has already been extended by four weeks due to the delays in the steering committee reviewing and approving materials. This information will help the project manager in negotiating with the client.

**4.1.6 Project Change Order Form**

<table>
<thead>
<tr>
<th>Project Name:</th>
<th>Development of Authorised Officer Training</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project commencement date</td>
<td>1 May 2004</td>
</tr>
<tr>
<td>Project Number:</td>
<td>A103</td>
</tr>
<tr>
<td>Project Manager:</td>
<td></td>
</tr>
<tr>
<td>Change Request:</td>
<td>For the curriculum and training materials for four units of competency to be revised and redrafted</td>
</tr>
<tr>
<td>Background information:</td>
<td>Changes to industrial award have changes the job roles and training for authorised officers</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Impact Assessment</th>
<th>Type of impact</th>
<th>Level of impact</th>
<th>Description of impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact on Service/Quality</td>
<td>✔</td>
<td>?</td>
<td>The impact on the schedule will depend on whether the client is prepared to increase the budget to enable us to contract additional writers. If so we may be able to complete near to the original schedule.</td>
</tr>
<tr>
<td>Impact on Schedule:</td>
<td>✔</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>Impact on Cost?</td>
<td>✔</td>
<td>?</td>
<td></td>
</tr>
</tbody>
</table>

**Immediate Action Required:**

- **Communication – who, how, when:** Project manager to meet with client to ask whether funds are available to enable additional writers to be contracted.

- **Notification of change requirements:** To Unit manager for authorization for meeting to be held.

**Authorization**

- **Requested by:** Project Administrator
- **Date Requested:** 20 January 2005
- **Approved by:** Project Manager
- **Date Approved:** 23 January 2005
- **Authorized by:** Unit Manager
- **Date Authorized:** 25 January 2005

This scope change order form records an agreed change to scope. As a team member you should also be alert to instances of non-compliance with the project scope and report these to the project manager.
2.3 Measuring progress

Measuring project progress involves applying the performance measures developed at the start of the project and asking whether these measures have been achieved, and, if not, what caused the project to fall short. This can point to a problem in the way client relations were handled, or in the quality of the deliverables, however it may be that the performance measure was not in fact measurable, set too high a standard for the resources of the project team, or perhaps, not critical to achievement of project outcomes. For example, in an effort to test their capacity, Gino, the co-owner of Makeovers-R-Us has set a very high performance measure in regard to timelines: exceeding the client’s timeline by two weeks. Achieving on this performance measure will please Cecile as she can get her domestic life back to normal – and may make her inclined to recommend Makeovers-R-Us to her friends; however the outcomes of the project will not be adversely affected if this measure is not quite achieved.

The important aspect of measuring performance is to be clear at the outset about how progress will be measured and at what intervals during the project.

**LEARNING ACTIVITIES**

**ACTIVITY 2**

**Applying performance measurement procedures**

The table below shows a set of possible performance indicators and measures for the Tsunami Relief Cricket Match.

How would you go about applying these measures – how often would you review progress against these measures - remembering that the entire project was planned in just two weeks?

Are there any performance indicators that should be measured regularly during the implementation of the project?

**Performance measures for the Tsunami Benefit Match**

<table>
<thead>
<tr>
<th>OBJECTIVE</th>
<th>PERFORMANCE INDICATOR</th>
<th>PERFORMANCE MEASURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. To raise funds for the global tsunami relief effort</td>
<td>Net funds raised after all costs deducted</td>
<td>Target of $10,000,000 net proceeds</td>
</tr>
<tr>
<td></td>
<td>Minimise costs through service provider donation</td>
<td>Target: all service providers to donate 75% of costs</td>
</tr>
<tr>
<td></td>
<td>Target attendance of 50,000</td>
<td></td>
</tr>
<tr>
<td>2. To raise awareness in the community of the plight of tsunami victims</td>
<td>Media coverage during the 14 day planning period, broadcast of the match and coverage after the event</td>
<td>Coverage in seven capital city dailies each day</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Front page coverage of the match in all dailies</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Feature in sporting sections of 3 capital city dailies</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Broadcast on Nine Network</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Coverage on CNN news</td>
</tr>
<tr>
<td>3. To attract major sponsorship</td>
<td>Sale of corporate boxes</td>
<td>Target of $5,000,000 sponsorship</td>
</tr>
<tr>
<td></td>
<td>Sale of naming rights</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sale of advertising space</td>
<td></td>
</tr>
</tbody>
</table>
There is one performance indicator here that would need to be measured on a daily basis – that is the media coverage of the forthcoming match – during the 14 day planning period. If the media coverage fell short of the performance measure, then the project team members responsible for media could take action to boost coverage. Cricket Australia would also want to know as early as possible that the ABC and CNN had agreed to cover the match, so that other news channels could be approached with the offer.

It would also be necessary to measure sponsorship against the target during the planning period and to take action to boost sales if the target looked to be in danger of slipping.

The other performance indicators for the Tsunami Benefit Cricket Match would need to be measured once the match was over and costs and net proceeds had calculated and post match media coverage known.

2.4 Assisting in the review of project outcomes

The objective of a review of project outcomes is to find out whether the project complied with the designated scope of the project. The key questions to be asked in the review of outcomes are:

- Did the scope management plan clearly define the project scope?
- Did the scope change procedures enable changes to be readily identified?
- Were agreed scope changes effectively incorporated into the project plan?
- Were agreed deliverables delivered within the scope of the amended project plan?
- Was the client satisfied with the outcome?
- Were issues recorded and addressed?
- Are there any areas of scope management that could be improved?
Reviewing project outcomes

The following extract from Cricket Australia’s Insight magazine dated February 2005 reports favourably on the outcomes of the Tsunami Relief Cricket Match held on January 10 2005.

Using the information in this report and the possible performance measures developed for the purposes of the activity above; review the outcomes of the project in terms of its targets.

WORLD CRICKET TSUNAMI APPEAL MATCH EXCEEDS ALL EXPECTATIONS

The recent World Cricket Tsunami Appeal match between an International Cricket Council World XI and an Asian Cricket Council XI at the Melbourne Cricket Ground was not only a testament to all who were involved in its organisation but, more importantly, it raised an enormous amount of money to help those in need.

Cricket Australia Chief Executive Officer Mr James Sutherland said the success of the match would make a tangible difference to those who need it most.

“The match not only brought cricketing communities from all around the globe together in a united effort, but also raised more than $14.5 million which will contribute to the rebuilding of some of the communities that have been crippled by this disaster,” said Mr Sutherland.

“There was a tremendous amount of goodwill generated by the match, and a long list of individuals and companies who worked tirelessly or donated their time and resources to make it all possible.

“The Australian public is one party that deserves a special mention for their support through attendance, by watching Channel Nine’s telecast, through donations, and for helping create a wonderful atmosphere at the game.

“A total of 97 organisations - from large scale corporate sectors to local family businesses - chipped in through various means to help stage the match.

“All donated their services, products, staff, time or settled fees. Most of these operations would normally constitute an expense in staging a match, and that’s one of the reasons we were able to raise such a substantial figure for the Tsunami Appeal.

“Hundreds of people donated their time, including volunteers who staffed the Melbourne Cricket Ground during the match - that type of support shows how much this game meant.

“On behalf of the cricket community, we want to formally thank those parties for their generosity and goodwill,” said Mr Sutherland.

Source: Cricket Australia: Insight Magazine February 2005
Appendices

Templates

Project Overview Statement, or scope proforma (a)

<table>
<thead>
<tr>
<th>PROJECT OVERVIEW STATEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Name</td>
</tr>
<tr>
<td>Background data: Problem/opportunity</td>
</tr>
<tr>
<td>Project objectives</td>
</tr>
<tr>
<td>Project deliverables</td>
</tr>
<tr>
<td>Key success criteria</td>
</tr>
<tr>
<td>Assumptions</td>
</tr>
<tr>
<td>Risks</td>
</tr>
<tr>
<td>Obstacles</td>
</tr>
<tr>
<td>Prepared by:</td>
</tr>
</tbody>
</table>


### Project scope proforma (b)

<table>
<thead>
<tr>
<th>ITEM</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Project name and number</td>
<td></td>
</tr>
<tr>
<td>Project sponsor</td>
<td></td>
</tr>
<tr>
<td>Project manager</td>
<td></td>
</tr>
<tr>
<td>Project director</td>
<td></td>
</tr>
<tr>
<td>Priority ranking</td>
<td></td>
</tr>
<tr>
<td>Problem/opportunity</td>
<td></td>
</tr>
<tr>
<td>Deliverable</td>
<td></td>
</tr>
<tr>
<td>Key objectives</td>
<td></td>
</tr>
<tr>
<td>Critical success factors</td>
<td></td>
</tr>
<tr>
<td>Stakeholders</td>
<td></td>
</tr>
<tr>
<td>Performance reporting</td>
<td></td>
</tr>
<tr>
<td>Specification</td>
<td></td>
</tr>
<tr>
<td>Budget &amp; resources</td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td></td>
</tr>
<tr>
<td>Risks, obstacles, assumptions</td>
<td></td>
</tr>
<tr>
<td>Escalation management</td>
<td></td>
</tr>
<tr>
<td>Contingency</td>
<td></td>
</tr>
<tr>
<td>Contractual arrangements</td>
<td></td>
</tr>
<tr>
<td>Business value</td>
<td></td>
</tr>
<tr>
<td>Approvals</td>
<td></td>
</tr>
<tr>
<td>Attachments</td>
<td></td>
</tr>
<tr>
<td>Prepared by/ Date</td>
<td></td>
</tr>
<tr>
<td>Approved by/Date</td>
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</tr>
</tbody>
</table>
### Project authorisation proforma

<table>
<thead>
<tr>
<th>Project title</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Sponsor</td>
<td></td>
</tr>
<tr>
<td>Project manager</td>
<td></td>
</tr>
<tr>
<td>Project team members</td>
<td></td>
</tr>
<tr>
<td><strong>Project timeline</strong></td>
<td>Planned start date</td>
</tr>
<tr>
<td><strong>Planned budget</strong></td>
<td>Total budget excluding GST</td>
</tr>
<tr>
<td></td>
<td>Total budget including GST</td>
</tr>
<tr>
<td></td>
<td>Other costs</td>
</tr>
<tr>
<td><strong>Project objectives</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Project deliverables</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Project assumptions/constraints</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Major phases</strong></td>
<td>1.</td>
</tr>
<tr>
<td><strong>Key deliverables in each phase</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Milestones and proposed dates</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Detailed information attached</strong></td>
<td>Detailed budget breakdown</td>
</tr>
<tr>
<td></td>
<td>Stakeholder identification and analysis</td>
</tr>
<tr>
<td></td>
<td>Scope review plan</td>
</tr>
<tr>
<td></td>
<td>Work breakdown</td>
</tr>
<tr>
<td><strong>Recommendation</strong></td>
<td>That this project be authorised to commence</td>
</tr>
<tr>
<td><strong>Decision</strong></td>
<td>Project authorising officer’s signature</td>
</tr>
</tbody>
</table>
## Scope definition checklist

<table>
<thead>
<tr>
<th>Question</th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who is the client?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What are the objectives of the project</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What are the project deliverables including products, services and other agreed outcomes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What assumptions does the client have?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What assumptions does the project team have?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are these assumptions compatible</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What constraints is the project operating under?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What will the project team be doing to deliver agreed products and services?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What are the timelines for these activities</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are the client and the project team in agreement regarding the project activities and timelines?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Scope management proformas

(a) Scope management plan

<table>
<thead>
<tr>
<th>1. SCOPE DEFINITION CHECKLIST</th>
<th>Activity</th>
<th>Document</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial scoping</td>
<td>Scope overview statement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project authorisation</td>
<td>Signed project authorisation proforma</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scope definition</td>
<td>Scope definition checklist</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work breakdown</td>
<td>Work breakdown schedule</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Client agreement</td>
<td>Signed letter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Defining performance measures</td>
<td>Performance review and evaluation plan</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. SCOPE MONITORING CHECKLIST</th>
<th>Change agreed</th>
<th>Impact level</th>
<th>Action Taken</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td>H</td>
</tr>
</tbody>
</table>

Timeline
Budget
Work plan
Client feedback

<table>
<thead>
<tr>
<th>3. SCOPE CHANGE REPORT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
</tr>
<tr>
<td>Source of change</td>
</tr>
<tr>
<td>Action</td>
</tr>
<tr>
<td>Outcome including revised documents</td>
</tr>
</tbody>
</table>

(b) Scope Change control template

<table>
<thead>
<tr>
<th>CLASSIFICATION OF CHANGE ELEMENTS</th>
<th>CUSTOMER ORIGINATED SCOPE CHANGE</th>
<th>INTERNALLY ORIGINATED SCOPE CHANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Changes affecting cost of Project</td>
<td>Required authorization level -</td>
<td></td>
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<tr>
<td>Required Documentation</td>
<td>Required Communication</td>
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<td>Changes affecting timing of project</td>
<td>Required authorization level -</td>
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<td>Changes affecting quality of project</td>
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<tr>
<td>Required Documentation</td>
<td>Required Communication</td>
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# Project Change Order Form

<table>
<thead>
<tr>
<th>IMPACT ASSESSMENT</th>
<th>Type of impact</th>
<th>Level of impact</th>
<th>Description of impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact on Service/Quality</td>
<td>+ve</td>
<td>H</td>
<td>Description of impact</td>
</tr>
<tr>
<td>Impact on Schedule:</td>
<td>-ve</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Impact on Cost?</td>
<td>H</td>
<td>L</td>
<td></td>
</tr>
</tbody>
</table>

## Immediate Action Required
- Communication – who, how, when
- Notification of change requirements

## Authorisation
- Requested by: Date Requested: 
- Approved by: Date Approved: 
- Authorized by: Date Authorized
## Issues Register

<table>
<thead>
<tr>
<th>Description of Issue</th>
<th>Comments, Details of Resolution</th>
<th>Deadline to Resolve</th>
<th>Responsibility for Resolution</th>
<th>Date Closed</th>
<th>Status (Open or Closed)</th>
<th>Dated Raised</th>
</tr>
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Case Studies

Case Study 1 Event Management

Asian Tsunami Benefit Cricket Match

On December 26th 2004, an earthquake measuring 9.0 on the Richter scale occurred in the Indian Ocean just off the western coast of northern Sumatra, Indonesia. The sudden vertical rise in the seabed by several metres displaced massive volumes of water, which resulted in a tsunami that devastated the shores of Bangladesh, Burma, Indonesia, Malaysia, the Maldives, South India, Sri Lanka, Thailand and as far away as Kenya and Somalia. The earthquake and tsunami were thought to have caused over 200,000 deaths, while whole sections of coastline were devastated, destroying the businesses and homes of millions, triggering a widespread humanitarian response. Throughout Australia many appeals were launched to raise money for humanitarian agencies to provide relief to the many injured and traumatised survivors.

The international cricket community launched one such appeal. With cricket being a popular sport in many of the affected countries, especially India, Sri Lanka and Bangladesh, and several Sri Lankan players’ families injured in the tsunami, the cricket community decided to organise a charity cricket match to raise funds for the relief effort. The match between an Asian team and “Rest of World” team, featuring some the world’s best players from Australia, New Zealand, Pakistan, India, Sri Lanka, the West Indies, England and Bangladesh was played at the Melbourne Cricket Ground on January 10, 2005.

Organising the charity match was a remarkable exercise in project management. With a busy international cricket calendar, organising matches between international teams usually takes approximately a year, yet this match was organised in the days immediately after the tsunami struck and played just 15 days later. Cricket Australia, the governing body of cricket in Australia, volunteered to organise and host the match and quickly set about the complicated process of organising the match.

Among the many tasks that needed to be completed were gaining permission from cricket’s world governing body, the International Cricket Council (ICC) to host the match, as well as the blessing of the game’s regional governing body in Asia, the Asian Cricket Council (ACC), and the individual cricketing authorities in each of the countries who provided players for the match.

The next step was to gain support from the International Cricket Players’ Association. This was quickly obtained, as the players were keen to support the match. Organising the teams proved to be a difficult exercise. Although Australia, Pakistan and the West Indies were playing in Australia at the time, the New Zealand, Indian and Bangladeshi players were at home, as were Sri Lankan players who had cancelled the remainder of their tour to New Zealand after the tsunami struck. The majority of the English team and all of the South African players were engaged in a cricket series in South Africa at the time, and unfortunately the best players from these two teams were unable to participate.

Among the many other tasks that had to be completed were gaining permission from the Melbourne Cricket Ground’s owners, the Melbourne Cricket Club, to use the stadium for the match and arranging to get the players to Melbourne from all around the world at short notice.
Publicising the match via television and print media, preparing a pitch, issuing tickets, and designing and making players' uniforms, tasks that usually take months to prepare, were all accomplished promptly. A wide range of sponsorships were organised, including a 1 million dollar naming rights sponsorship, and hundreds of corporate boxes were sold at short notice during the traditional summer holiday period.

Negotiations were also required to be undertaken with construction unions and building contractors to stop work for a day, as the Melbourne Cricket Ground was in the middle of a redevelopment in preparation for the Melbourne 2006 Commonwealth Games. In addition, enough staff to run a match with a crowd of 70,000, such as ground staff, curators, security personnel, catering staff and cleaners needed to be obtained.

The match proved to be a tremendous success, raising over $15 million for the relief agency World Vision’s Asia Tsunami Appeal.

Case Study 2 Construction

Fred's Sheds

Fred Smith, the founder and chief executive of Fred's Sheds, received a phone call one afternoon from a local farmer, Mr Jones, requesting a quote to design and build a large storage shed on his property. Fred asked Mr Jones what size and type of shed he would like, when he wanted work to commence, and when he wanted it completed. Mr Jones told him that he required a large shed, big enough to store his tractor and utility vehicle, and spaces for a workbench, tools and fertilisers.

He also specified that the shed must have power, water and a toilet. He requested that the shed be made of high quality materials, because twice in the previous ten years some of the other sheds on his property had been damaged by inclement weather, costing him many thousands of dollars in repairs. Mr Jones wanted work to commence in 6 week's time and would like the job completed no more than 3 weeks after that so he would have a place to store his vehicles before the winter rains came.

Mr Jones asked Fred to come up with a design and quote to build his shed and asked him to present them to him at a meeting at his house in a week’s time. He told Fred that he was obtaining three quotes from three different builders, and that he would select his preferred builder based on four criteria. These were quality, the ability to start and finish on time, and cost.

Mr Jones said he would like to spend no more than $40,000 on the shed, but would consider alternate proposals that were a little higher in price if they could exceed his minimum evaluation criteria.

As soon as Fred hung up the phone his mind started to think of all the different tasks he would need to do to win and complete the job. Having built many sheds before, he was confident he had the project management skills to build a shed that met Mr Jones’s extensive criteria. He jotted down some of his thoughts on a notepad so that he would not forget anything.
First of all, Fred knew he would have to come up with a winning design, so he would need to put his designer, Karen, on the job of coming up with some innovative designs. Fred would also have to source higher quality building materials than he usually used because, although Fred always used good materials, he thought he would try to use the best possible materials, if it was cost effective, to give him the edge in meeting Mr Jones’s stringent evaluation criteria over his two competitors.

Fred also knew that he would need to plan the human resources necessary to complete the job in the timeframe required. Some of his other construction projects were nearing completion, so it would not be too much of a problem getting some of his construction workers to start in 6 weeks’ time. However, Fred was not sure about the availability of his subcontractors, Eddie the electrician, Bob the plumber, Gary the glazier and Tony his fencing contractor and odd job man, because business was booming and they were all very busy.

If he was successful in winning the contract, Fred knew that there would still be lots of work to be done. After signing the contract, he would need to submit a Development Application and construction certificate to the local council and await their approval. Mr Jones’s final selections for colour and style of shed materials would need to be finalised and a deposit received prior to commencing work.

Once all that had been accomplished, Fred and his team of four would have to prepare the site for construction. This would involve performing underground cable service checks, and perhaps contracting a surveyor to locate existing boundaries as the shed was going to be built close to the boundary with Mrs Mitchell’s neighbouring property. The site would need to be cleared, temporary site facilities such as a toilet, site fencing, power and water would have to be established, the site set out and the formwork built. Following this, the site would be excavated.

While the excavation was taking place, Fred would need to remember to book a council inspection for the formwork prior to concreting, as well as booking the concrete truck, a date for the shed to be delivered, a date for the shed installation team to put the shed into place, and dates for his subcontractors to come and install power and water.

After pouring the concrete and finish, his team would need to strip the formwork. At this time Fred could invoice Mr Jones for a progress payment as this represented a milestone in the project. Following this the shed could be delivered and installed, Eddie the electrician could be called in to connect the mains power, Bob the plumber could connect the water and install the toilet and Gary the glazier could install the windows. While they were busy doing that, Fred and his team could start clearing the site, removing any rubbish and the temporary site amenities. Once all these tasks were accomplished, the job would be at practical completion. Fred would then meet with Mr Jones, present him with a final bill and handover the keys to the shed. Fred smiled to himself feeling confident that he would beat his two competitors to the job and thinking that he would soon have another satisfied customer.
Case Study 3 Human Resources Management

Developing a training program
This project involves the design and development of a program to train “Authorised Officers”, or ticket inspectors on a metropolitan Public Transport System. The aim of the program will be to provide Authorised Officers with training in customer relations, communication skills and working in a culturally diverse culture. The government department responsible for public transport has issued a Request for Tender (RFT), inviting bids from suitably Qualified organisations, including TAFE colleges and Registered Training Organisations with expertise and experience in Community Service and Public Service training.

The following RFT details, issued by the government department responsible for public transport, provide an outline of what will be expected of the successful tenderer.

Background
In response to the release of a Parliamentary Law Reform Committee Report, the Minister for Transport, commissioned an independent and comprehensive review of the role, responsibilities, operations and functions (including the training) of Authorised Officers (AOs). The Government and the public transport providers have agreed to use the national training framework as the basis for all future training activity.

An agreement was reached to adopt a competency-based approach for AO’s training. Stakeholders have identified the particular competencies that are to be used, the structure and content of the training program together with the qualifications to be awarded on successful completion of the total training program.

The course structure consists of three stages:
1. Course development
2. Production of assessment instruments
3. Maintenance of a nationally accredited course

Stage one has been identified as requiring a full time training effort, with stages two and three being interspersed notionally over an eighteen month - two year period involving both on and off job training and assessment.

Purpose
In consultation and agreement with stakeholders, develop a curriculum, teaching materials, assessment tools and a maintenance strategy for a AOs training program. A proposed framework (Attachment A) is included that lists the proposed tasks, actions and outcomes that are required to be completed to meet the requirements of this tender.

Key Deliverables
- Development of curriculum for a 420 hour course;
- Production of teaching and support materials for 14 units of competency; Development of a range of assessment tools, and
- Development of a strategy that will facilitate course evaluation, review and maintenance.
Contractors Proposal
The proposal submitted by the contractor should detail the following:

- the contractors understanding of the scope and purpose of the assignment and of the key issues which will need to be addressed in its conduct;
- the ‘deliverables’ from the contractor;
- the name(s) and relevant experience of the contractor;
- the total estimated cost for each stage plus overall cost to deliver the project;
- the availability of the nominated contractor and the potential commencement date; and
- the nature of any information and/or support expected from the Department.

Proposals will be evaluated on the basis of the following criteria:

- understanding of the tasks/appropriateness of the proposed approach/methodology;
- demonstrated expert knowledge and skills in training program development;
- relevant experience of the contractor in training program development;
- extensive national and international knowledge of best practices in the training development field;
- fee rates and estimated total cost for each stage plus overall costs for the project.

Project Duration
Appointment will be considered initially for a period of up to 3 months. The contract management and administration will be undertaken by the Franchise Relationships Branch of the Public Transport Division.

Contractor Agreement
The contractor will be expected to indicate their willingness to execute the standard agreement for the purchase of services (Attachment C). Any proposed departures from these standard conditions are to be identified in the tenderer’s response (Attachment D- schedule 13) to the contractor’s proposal.

Payments
Payment will be based on total cost for the project. Milestone payments will be made for each stage completed.

Intellectual Property
Material created is Department’s Property. The ownership of all Intellectual Property and all Information created as a result of the provision of Services shall vest in the Department.

The successful tenderer was a business development unit in a TAFE institute, who proposed a budget of $240,000 for an eighteen month project. Below is an extract from their initial planning documents.
Planning Stage One: prepare course proposal

- Map existing units of competency from (TDT30402) Certificate III in T&D (Rail Operations) to the public transport job analysis and develop draft content clusters
- Identify and collate areas of underpinning knowledge and skill to be included
- Meet with [government department] to:
  - Clarify situation regarding the development of new units
  - Identify workplace documents to be used as training materials
  - Identify any existing preferred training materials
  - Identify key stakeholders and contact personnel

Planning Stage Two: Scope definition

Key tasks for work breakdown schedule

- Document agreed objectives and deliverables
- Finalise timelines and work plans
- Develop scope management plan
- Establish administrative systems
- Confirm and brief project team

Planning Stage Three: Establish quality protocols and implementation parameters

- Set up project steering committee
- Convene first meeting to sign off content clusters and learning sequences
- PSG to review WBS, finalise and sign-off

Case Study 4 Home renovation

Renovating a kitchen

This case study is about a small company - Makeovers R Us that specialises in managing house and garden renovations. Their clients are usually busy couples and families who do not have the time to manage their own renovation projects, and people who are just daunted by the whole idea! Makeovers R Us can source all of the expertise required – including architects, landscape designers, builders, painters, electricians, wreckers, rubbish removalists and interior designers, and manage the entire project from scoping and preparation to completion. Their claim is that they will manage the project “On time; on budget, to your specifications”.

Makeovers R Us has been contacted by Cecile, an accountant, who is looking for someone to manage the renovation of her kitchen. This will be a complete makeover – everything to go – with installation of new stove, sink, fridge, dishwasher, benches and cupboards. Cecile has prepared a list of specifications as follows:
Cecile’s specifications

1. Everything in the kitchen except crockery, food and cutlery is to go; crockery etc will need to be stored somewhere – and I have little storage in the house;

2. I will need somewhere to make a cup of coffee and heat the odd meal– throughout the renovations, and somewhere to keep the milk and other fridge things – but I don’t want that huge fridge in the lounge room or anywhere else during the renovations;

3. Paint colour needs to tone with the benches – not sure what finish I want on the benches – I'll need samples and prices to consider;

4. Stove, fridge and dishwasher – need to be good quality but not over the top prices. I would like you to source options and make recommendations based on price and quality;

5. I don’t know what to do with the cat while the renovations are happening – she usually has the run of the house;

6. Everything MUST be finished in five weeks as my mother is coming to stay!

Cecile does not have a fixed budget for the renovations, but is getting three quotes for the job and will decide who to contract, based on her assessment of which company: is best able to assure her that they can finish the job in five weeks; has the best solution for storing the kitchen equipment during the renovation and can come up with a reasonable temporary kitchen space during the renovations.

Case Study 5 Information Technology

Connect up
A large state government department sought the design and establishment of:

- an intranet facility within and across the department to enable internal communication and reporting
- a secure on line facility to enable communications with other departments
- a portal to enable access to specified areas of department functions/information
- a reporting system that would enable costing to be calculated on a user pays basis for external users. This part of the system includes an extensive data base of contracted organisations, including their funding arrangements with the department.

The head of the department approached Ajec International to provide a submission that would include a business case for development and implementation of such a system.

Profile of the client
The government department had a newly elected Minister who was required to sign off on the proposal and on the finished product and required periodic reporting. The Minister was under intense pressure at the time to reduce the budget deficit and to report increased efficiencies. This invariably brought resistance and opposition from those who were fearful of losing their jobs.
APPENDICES

Project higher authorities
The department was divided into three main areas, with a senior executive at the head of each. The proposal had the strong support of two of the three executives. The third believed the work should be undertaken internally to protect the jobs of the existing staff in the information technology service area.

The Sponsor
The sponsor for the project was a senior staff member from the section of the department managed by the dissenting senior executive.

Quality measures
Success of the project was dependent on winning over the support of departmental staff who wanted to see that it improved existing arrangements, as well as other end users of the system external to the department. They also needed to be consulted about the specifications for the new system.

Timeframe
The project ran for twelve months, and included the design, development and implementation of equipment and infrastructure, trialing and training of all users (no further training was to be delivered once the project was completed). The timeframe was very tight and a key issue was seeking and incorporating feedback from end-users, at a time at which they were unfamiliar with the product.

Project scope
Since no-one internally seemed to have the capacity to understand or scope the requirements for the system, specifications were left fairly open, relying on Aject to provide what they believed to be the best-fit solution to the problem: to increase efficiency across the organisation.

The project team
Aject International agreed to pull together a consortium that included three other companies as subcontractors: AJC, SPS (Software Performance Systems) and Orbit.

- Aject provided the project manager and three of its twenty staff assisted in project administration.

- AJC specialised in designing system architecture and troubleshooting. They had just picked up several large contracts in Asia and were experiencing a substantial demand on their resources so they needed to recruit additional staff to provide the technical expertise to the project.

- SPC was a small but vibrant company that undertook all the communication and consultation activities with stakeholders and the end users of the system throughout the project and provided training to them in the latter stages of the project.

- Orbit specialised in data management systems and designed, installed and piloted software modifications (they used off the shelf software). They were also be responsible for procuring all required hardware and software.
Project communications
Managing project communications across the team was carefully considered since the team members were located in different states and each one had substantial existing business commitments. Throughout the project, team members struggled with implementing the communication processes agreed in the original communications plan. Despite this, the project was able to come in on time but did require some minor modifications to the scope of the final product to accommodate changes in technology between the beginning and end of the project.

Glossary
Particular terms that relate to project scoping are provided below:

<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
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<tbody>
<tr>
<td>Action Plan</td>
<td>A plan that describes what needs to be done and when it needs to be completed. Project plans are action plans.</td>
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<tr>
<td>Activity network</td>
<td>A diagram that shows the workflow, milestones and task interrelationships of a project.</td>
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<td>Affected groups and individuals</td>
<td>Groups and individuals impacted by an action or decision, including project team members, sponsors, project leadership, sales, operations, etc.</td>
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<tr>
<td>Assumptions</td>
<td>Factors related to a project that affect the environment within which a project is being implemented and which are taken as being true or correct for the project to be successful.</td>
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<tr>
<td>Authorised</td>
<td>The recorded decision that a deliverable or output has been cleared for use or action after having satisfied the quality standards for the project.</td>
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<td>Baseline Plan</td>
<td>The initial approved plan to which deviations will be compared as the project proceeds.</td>
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<tr>
<td>Change</td>
<td>A condition that potentially affects or forces rework or removal of a previously reviewed and approved document, requirement or deliverable and may also impact future deliverables, budgets, schedules, resources or timelines.</td>
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<tr>
<td>Change Request Form</td>
<td>This form is completed by the Originator for any change to approved documents, requirements, or deliverables to begin the Project Change process.</td>
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<tr>
<td>Change Request Log</td>
<td>This is a document that tracks and reports on change control activity throughout the Project and controls the change versions of the requests.</td>
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<tr>
<td>Constraints</td>
<td>Factors or things that may impact on a project in some way, usually in terms of limiting or prescribing its direction or development.</td>
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<tr>
<td>Consultation mechanisms</td>
<td>Systems set up to facilitate communication between project stakeholders.</td>
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<tr>
<td>Corrective action</td>
<td>Changes made to bring expected future performance of a project into line with the plan. This should be distinguished from making changes to the plan in response to new information or changing circumstances.</td>
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<tr>
<td>CRB</td>
<td>Change Review Board - Key stakeholders, generally comprised of both sponsor and leadership personnel, selected to review and approve changes to project work. The method used to reach a decision regarding the disposition of a proposed change request. Approaches include consensus, and majority decision. There will be a CRB at the Project Level and the Program Level. Within the Company, the Program CRB is referred to as the I/T Steering Committee</td>
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<tr>
<td>Deliverables</td>
<td>The clearly defined results or goods or services that are produced during or at the end of a project.</td>
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<td>Formal Scope Modification</td>
<td>Modification to scope which requires a formal contract or service agreement amendment, work order, sponsor-approved change order, or other formal documentation</td>
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<tr>
<td><strong>Gantt chart</strong></td>
<td>This is a type of timeline that identifies the activity, person responsible and the period over which it is to be undertaken.</td>
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<tr>
<td><strong>Goals</strong></td>
<td>The specification of what is to be achieved at the end of a project.</td>
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<td><strong>Higher authority</strong></td>
<td>A higher authority is a person with the responsibility for making key decisions about the project and, often, providing necessary written authorisation or signature.</td>
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<tr>
<td><strong>Implementation Plan</strong></td>
<td>Describes how the outputs will be delivered to the customer, including any special requirements such as stage implementation or ‘roll out’, training and delivery requirements.</td>
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<tr>
<td><strong>Issue</strong></td>
<td>A concern raised by any stakeholder that needs to be addressed, either immediately or during the project. As issues are reviewed during the project, they may become a threat to the project and a mitigation strategy prepared.</td>
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<tr>
<td><strong>IT Needs Request</strong></td>
<td>Process of how all requests requiring IT resources are submitted, reviewed, prioritized and approved/disapproved.</td>
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<tr>
<td><strong>Objectives</strong></td>
<td>More specific detail building on goals.</td>
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<tr>
<td><strong>Outcomes</strong></td>
<td>The end result or benefits of a project.</td>
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<tr>
<td><strong>Performance indicators</strong></td>
<td>Measures that show that a goal or objective has been achieved.</td>
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<tr>
<td><strong>Project manager</strong></td>
<td>The project manager is accountable to the project sponsor for the successful delivery of the project objectives.</td>
</tr>
<tr>
<td><strong>Project plan</strong></td>
<td>A specification which is the source of definitive information about a project’s goals, objectives, scope, outcomes, organisation and strategy, budget and justifications.</td>
</tr>
<tr>
<td><strong>Scope</strong></td>
<td>The size or extent of a project and what is achieved within the timeframe.</td>
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<tr>
<td><strong>Stakeholder</strong></td>
<td>Any person or agency/s who are affected by, have an interest in, or could have an impact (positive or negative) on the project.</td>
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<tr>
<td><strong>Variation</strong></td>
<td>A change to the original agreement for the project.</td>
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<tr>
<td><strong>Work breakdown structure</strong></td>
<td>A planning tool which divides and sub-divides the work of a project into smaller, more manageable work packages.</td>
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</tbody>
</table>
References

LCPowers.com at http://www.lcpowers.com/ offers general information on project management including a series of project planning tutorials and further references and resources.


Pinto, Jeffrey K., Power & Politics in Project Management Sylva, NC: Project Management Institute, 1996.


References specific to project scoping

ProjectConnections.Com is a subscription service that provides a range of resources for project managers including case studies and interviews

http://www.projectconnections.com/community/interviews/index.html

The website also offers a range of tools and templates for download for subscribers

http://www.projectconnections.com/knowhow/template_list/subjects/pm_skills/planning.html