

­

Student workbook

BSBPMG522 Undertake project work

**TAFE NSW would like to pay our respect and acknowledge Aboriginal and Torres Strait Islander Peoples as the Traditional Custodians of the Land, Rivers and Sea. We acknowledge and pay our respect to the Elders, both past and present of all Nations.**

Version: 20191129

Date created: 24/09/2019

Date modified: 29/11/2019

For queries contact: Technology and Business Services SkillsPoint-+

© TAFE NSW 2019  
RTO Provider Number 90003 | CRICOS Provider Code: 00591E

This resource is based on information from the BSBPMG522 Learner Resources, © RTO Materials Ltd. Refer to user licence agreement in the Learning Bank.

This resource can be found in the [TAFE NSW Learning Bank](https://share.tafensw.edu.au/share/logon.do).

The content in this document is copyright © TAFE NSW 2019 and should not be reproduced without the permission of TAFE NSW. Information contained in this document is correct at time of printing: 02 December 2019. For current information please refer to our website or your teacher as appropriate.

Table of Contents

[Getting started 5](#_Toc26193635)

[What will I learn by completing this workbook? 5](#_Toc26193636)

[Topic 1: Define project 7](#_Toc26193637)

[Overview 7](#_Toc26193638)

[Access project scope and other relevant documentation 7](#_Toc26193639)

[Define project stakeholders 11](#_Toc26193640)

[Seek clarification from delegating authority of issues related to project and project parameters 13](#_Toc26193641)

[Identify limits of own responsibility and reporting requirements 16](#_Toc26193642)

[Clarify relationship of project to other projects and to the organisation's objectives 19](#_Toc26193643)

[Determine and access available resources to undertake project 23](#_Toc26193644)

[Topic 2: Develop project plan 28](#_Toc26193645)

[Overview 28](#_Toc26193646)

[Develop project plan in line with the project parameters 28](#_Toc26193647)

[Identify and access appropriate project management tools 36](#_Toc26193648)

[Formulate risk management plan for project, including Work Health and Safety (WHS) 42](#_Toc26193649)

[Develop and approve project budget 48](#_Toc26193650)

[Consult team members and take their views into account in planning the project 56](#_Toc26193651)

[Finalise project plan and gain necessary approvals to commence project according to documented plan 59](#_Toc26193652)

[Topic 3: Administer and monitor project 63](#_Toc26193653)

[Overview 63](#_Toc26193654)

[Take action to ensure project team members are clear about their responsibilities and the project requirements 63](#_Toc26193655)

[Provide support for project team members 69](#_Toc26193656)

[Establish and maintain required recordkeeping systems throughout the project 76](#_Toc26193657)

[Implement and monitor plans for managing project finances, resources and quality 84](#_Toc26193658)

[Complete and forward project reports as required to stakeholders 91](#_Toc26193659)

[Undertake risk management as required to ensure project outcomes are met 95](#_Toc26193660)

[Achieve project deliverables 98](#_Toc26193661)

[Topic 4: Finalise project 101](#_Toc26193662)

[Overview 101](#_Toc26193663)

[Complete financial record keeping associated with project and check for accuracy 101](#_Toc26193664)

[Ensure transition of staff involved in project to new roles or reassignment to previous roles 105](#_Toc26193665)

[Complete project documentation and obtain necessary sign-offs for concluding project 108](#_Toc26193666)

[Topic 5: Review project 112](#_Toc26193667)

[Overview 112](#_Toc26193668)

[Review project outcomes and processes against the project scope and plan 112](#_Toc26193669)

[Involve team members in the project review 116](#_Toc26193670)

[Document lessons learned from the project and report within the organisation 119](#_Toc26193671)

[References 122](#_Toc26193672)

[Image attributions 123](#_Toc26193673)

Icon legends

| Icons | Descriptions |
| --- | --- |
| Image of pencil | **Practice activity**  Learning activities are the 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.  Activities can be used to prepare you for assessments. Refer to the assessments before you commence so that you are aware which activities will assist you in completing your assessments. |
| Image of conversation chats | **Collaboration**  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. |
| Image of tick box | **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. |
| Image of text on paper | **Readings (Required and suggested)**  The required reading is referred to throughout this Student workbook. You will need the required text for readings and activities.  The suggested reading provides supplementary information that may assist you in completing the unit. |

# Getting started

## What will I learn by completing this workbook?

This workbook has been developed for the unit of competency BSBPMG522 Undertake project work.

Successfully completing this unit of competency will give you the skills and knowledge required to undertake a straightforward project or a section of a larger project. It covers developing a project plan, administering and monitoring the project, finalising the project and reviewing the project to identify lessons learned for application to future projects.

This unit applies to individuals who play a significant role in ensuring a project meets timelines, quality standards, budgetary limits and other requirements set for the project.

Each topic includes opportunities to check your progress and understanding as well as activities that will help you to complete the formal assessments. There are five topics to complete within this workbook. These are:

Topic 1: Define project

Topic 2: Develop project plan

Topic 3: Administer and monitor project

Topic 4: Finalise project

Topic 5: Review project

The activities throughout this resource will assist you in your learning. These activities do not form a part of your final assessment however they will contribute to your understanding of the topic area.

Alright, let’s get started!

Topic 1

**Define project**

# Topic 1: Define project

## Overview

In this topic you will learn how to:

* Access project scope and other relevant documentation.
* Define project stakeholders.
* Seek clarification from delegating authority of issues related to project and project parameters.
* Identify limits of own responsibility and reporting requirements.
* Clarify relationship of project to other projects and to the organisation's objectives.
* Determine and access available resources to undertake project.

## Access project scope and other relevant documentation

By the end of this topic the learner should be able to:

* Give four examples of relevant documentation which could be used in defining the parameters of a project.
* Identify where to access project scope or other relevant documentation.

### Project management

Project management was first introduced in the 1950s when large organisations with a number of different departments and business activities realised that they needed structured and formal management plans to coordinate their various projects. Projects vary in size and duration, but all go through similar processes from the conception to the completion.

Before you can even think about making a general plan for a project, essential information is required to determine the nature of the project. A Project Initiation Document (PID) or Project Definition is the foundation of the project; it sets out what the project is about, why it is being undertaken, and what will be delivered, by when, by which methods, and by whom. It is the premise of the project that is agreed by the project manager and the client/sponsor/steering committee.

Careful consideration and time should be taken when compiling the PID as it will save time and resources later in the project. The PID should be sufficiently detailed and relevant to your project, not just a generic box-ticking exercise, to ensure that all relevant stakeholders understand what the project is about.

The purpose of a PID is to provide the following information:

* Why the project is being undertaken?
* What will be delivered?
* Who will be responsible for relevant aspects?
* How the project will be delivered?
* When the project will be delivered?
* The risks, constraints and potential issues.
* Estimated cost of the project.

The PID would take shape from the business plan to ensure strategic alignment. A project management team is not usually the author of the business plan as companies often bring in project managers to bring to life their goals in a more cohesive and expert manner than they could manage to achieve themselves. The business plan may be the first piece of information the project management team will look at.

### Accessing scope

You should find out where information on the scope of a project can be found in your organisation. This is because a scope will be needed to guide you during the project. A scope statement is a written document that sets out the limits of the project to which all that are involved agree, prior to the project beginning.

The scope would include:

* Justification—why the project is necessary and valid.
* Deliverables/objectives—what the project will produce.
* Acceptance criteria—conditions for which the project and all those involved must adhere to for the completion of the project.
* Project exclusions—what the project will not do or produce.
* Constraints—any envisaged issues that may hinder the project.
* Assumptions—how anomalies within the life of the project will be addressed.

An example of a scope document, in this case for a project to install animal litter bins in local parks, is available here: [Sample project Scope Document](https://share.tafensw.edu.au/share/file/a6667ef0-52bb-441d-bde7-aa31473101e4/1/BSBPMG522_Proj_1of1_T2_ProjectScopeDocumentation.pdf) *(https://share.tafensw.edu.au/share/file/a6667ef0-52bb-441d-bde7-aa31473101e4/1/BSBPMG522\_Proj\_1of1\_T2\_ProjectScopeDocumentation.pdf).*

#### Other relevant documentation

There are other types of documents and other sources of information commonly used in defining the parameters of a project.

Project initiation documentation may include:

* agreed project management framework
* agreed project methodology
* client or customer requirements
* concept proposal
* contract documentation
* executive team instructions
* feasibility study
* life cycle approval gateways
* output from prior project.

### Project management framework

The framework is the way in which a project is managed from start to finish, or the life cycle of the project.

It is commonly agreed that the stages in the life cycle of the project are:

The stages in the project life cycle:
Define Project
Develop Project Plan
Administer and Monitor Project
Finalise Project
Review Project

© TAFE NSW 2019 Project life cycle

|  |  |
| --- | --- |
| Self-check questions icon | Practice activity |

#### Activity 1.1: Project scope and other documentation

Complete the following activities individually or in a group (as applicable to the specific activity and the assessment environment).

This activity will provide you with an opportunity to identify how to access project scope and other relevant documentation.

1. Give four examples of relevant documentation you could use in defining the parameters of a project.
2. Referring to your current organisation, or an organisation you have previously worked for, identify where you would access project scope or other relevant documentation.

## Define project stakeholders

By the end of this chapter the learner should be able to:

* Define what a stakeholder is.

### Who are stakeholders?

A stakeholder is anyone who has a serious interest or concern in something (in this case, your project). A stakeholder in your project is someone who stands to have their interests impacted by your project.

Stakeholders are those whose interests are impacted by the project, and may include:

* associated organisations
* clients
* community
* internal and external parties
* sponsors
* suppliers
* team members
* users.

#### Associated organisations

The organisations that are tied to your project are stakeholders classified as external stakeholders. Their interest in the project is usually that it is delivered on time and that financial goals are met. They are not part of your organisation, but they will often have a business.

So, for example, if your project creates a saleable product, the organisations that sell your product to consumers (retailers) are stakeholders – if you don't create the product for them, they can't sell it, and their income will decrease.

#### Clients

These stakeholders have an interest in using your product or service. They also want to buy it at the best price and quality available.

#### Community

The community are stakeholders as they may be affected directly by your project – for example, becoming an employee of your organisation. They may also be indirectly affected by your project – for example, increased traffic and noise due to deliveries or other business related to your project.

#### Internal and external parties

Internal stakeholders are those which exist within an organisation. They have a vested interest in the project reaching its financial goals and deadlines.

Examples of internal stakeholders include managers, supervisors and workers in the organisation, as they have an interest in the project doing well as it will likely increase their income (especially if there is a profit-sharing arrangement.

External stakeholders are those that have an interest in the project – usually that it is delivered on time and that financial goals are met. They are not part of your organisation, but they will often have a business.

#### Sponsors

These are the people or companies that start a project and are typically said to 'own' it. The sponsor can be an individual (manager/supervisor) or a group (team/partnership).

They have an active interest in the inception of a project and may require reports to update them on its progress. For a project to proceed, you often need authorisation from sponsors.

#### Suppliers

These stakeholders have an interest in your project being successful, so they have a continued relationship with your organisation – for example, selling them materials and other services that help them complete future projects.

#### Team members

These are the people responsible for carrying out a project to completion and are employed to do so. Naturally, they have an interest in the completion and success of a project, as it will ensure their continued employment and see an increased income for themselves.

#### Users

Like clients, users will be interested in using your product or service. They also want to buy it at the best price and quality available. They will also be concerned with what you can offer them that other similar services/products cannot.

You will need to identify stakeholders that relate to your project and rank them in terms of importance. While you will need to consider all of their interests, you must prioritise those which will have the greatest impact on the success of your project. Be aware that the importance of stakeholders can differ between projects, so you will need to analyse each stakeholder with regards to the impact your project will have on them.

|  |  |
| --- | --- |
| Self-check questions icon | Practice activity |

#### Activity 1.2: Define Project Stakeholder

Estimated time 20 minutes. This activity is to provide you with an opportunity to define project stakeholders.

Read the essay question carefully. Your answer should be no longer than 50 words.

1. What is a stakeholder? You may define a stakeholder related to your organisation or an organisation you have previously worked for.

## Seek clarification from delegating authority of issues related to project and project parameters

By the end of this chapter the learner should be able to:

* Identify one delegating authority within a project they have worked on that had decision-making capabilities and give an example of an issue they made a decision on.

### Seeking clarification of issues

Good decision making is paramount to a successful project and processes and procedures should be in place to make rational and considered decisions promptly. The three constraints to any project are time, scope and cost; any variations to the values of these constraints that were stipulated at the beginning of the project will affect its overall success. Decisions made, therefore, need to be swift, involving as few steps and authorities as possible, and about the project objectives.

#### Delegated authorities

Throughout the life of your project, many decisions will have to be made about endless issues, some of which may have been planned for and some may not. Before the project begins, it is important to identify the delegated authorities within your project that will have decision-making capabilities on different areas within the project so that every member of the team is clear on how and who will be making critical decisions so that they can be made as quickly and effectively as possible.

**Types of decisions include:**

* Client liaison – these decisions may take the most time to make because the client has the most personal interest in the project. Problems that may be encountered include:
* **indecisiveness**
* **hidden agenda**
* **fear of making a decision.**
* Financial expenditure – this is possibly the easiest way of coming to a decision as the constraints are simple; does it comply with budgetary requirements? All project activities and resources will have been allocated a budget prior to the beginning of the project, and these budgets will have been assigned to designated personnel to manage. There may even be hierarchies of authorities within each budget area and if so it is important to ensure a clear escalation path is in place.
* Process decisions – project management is essentially about making the right decisions throughout the life of the project. It is the project manager’s role to ensure decision-making processes are in place and that all involved are aware of the processes. Process decisions include risk analysis and management strategies so that potential issues that will require a decision to be made have already been identified and pre-determined solutions highlighted prior to the problem being encountered. For all decision-making processes, the following should already be identified:
* the information required to make the decision
* a time frame in which the decision must be made
* persons required to be involved in and/or make the decision
* other actions needed to ratify the decision.
* Purchasing/procurement – procurement is about purchasing or acquiring the best possible resources required for the project at the best possible price. Budgets will be allocated for all procurement activities, and spending and the procurement team have to source vendors and resources that meet:
* project objectives
* stakeholder expectations
* budgetary requirements
* specific supplier selection criteria.
* Stakeholder engagement – if a decision has to be made that affects the stakeholders of your project they may be asked to help in the decision process. Because the term ‘stakeholders’ refers to a wide-reaching and diverse group of people, only the relevant types of stakeholders’ engagement may be required. For example, if a decision regarding the location of a new supermarket in a specific town needed to be made, it would be prudent to engage the views of the local community it would serve, likewise if the project needed to invest in new technology or equipment, it would be wise to obtain the views of the employees who would be operating it. Stakeholders do not necessarily make the decisions, but they are instrumental in the decision-making process.

Different decisions will require different delegated authorities according to their needs

|  |  |
| --- | --- |
| Self-check questions icon | Practice activity |

#### Activity 1.3: Delegating authority

Will provide you with an opportunity to seek clarification from delegating authority of issues related to project and project parameters.

Read the question carefully and provide your answer in the space below.

1. Reflect on a project you have previously been involved in. Identify one delegating authority within this project that had decision-making capabilities and give an example of an issue they made a decision on.

***Note:*** if you have no experience to recollect, you may answer this question hypothetically.

## Identify limits of own responsibility and reporting requirements

By the end of this chapter the learner should be able to:

* List three of their responsibilities and give one example of a limit to their responsibilities.

### ****Identifying limits of own responsibility****

Every project and organisation has a hierarchy structure with specific authorities bestowed upon each rank or level of seniority. There will be a limit to your own responsibilities and times where you will need to report an event or issue to someone in a higher position or delegated authority.

Delegated authority means that activities may:

* be conducted routinely or as changing circumstances dictate
* be done independently within broad guidance
* involve consultation with other project members, teams and internal stakeholders
* involve taking a lead role in a team where required
* involve the selection, use and supervision of appropriate communication-management methods and tools
* take into account internal organisational change and external environmental change.

#### Responsibilities

Certain roles have associated responsibilities – these can vary in importance, but it is vital that these are taken seriously and carried out.

Responsibilities may include:

* ensuring safety in the workplace
* working to deadlines
* working to budget
* managing a team
* acting out contingencies
* customer service
* punctuality
* workplace behaviour
* decision making.

Assigned responsibilities are created so that all the required tasks in a project are covered – if you fail to carry out your responsibilities, it can lead to the whole project falling apart, as others are relying on you.

You will need to use teamwork and communication skills to acquire and disseminate relevant project information, as well as articulating specific responsibilities.

#### Escalation

Sometimes situations occur that are beyond the control and expertise of the delegated authority which gives rise to escalating the issue to the next appropriate level. As with all other procedures within your project governance plan, the escalation management procedure should be completely unambiguous so as to avoid any disasters in what is quite possibly an already challenging situation.

Sometimes people panic and escalate matters before they have completed all actions that may resolve the issue and negated the need to escalate.

The following might be considered as pre-escalation guidance:

* Have all channels to resolve the matter been considered and implemented but failed to achieve a resolution?
* Is the matter something with which the delegated authority would be expected to deal alone?
* Is the delegated authority qualified to resolve the issue or is specialist knowledge from other authorities or stakeholders required?
* Can assistance be obtained directly, without having to go through escalation procedures?
* Is escalation the only way to avoid delay which would seriously compromise project objectives and/or deliverables?

|  |  |
| --- | --- |
| Self-check questions icon | Practice activity |

#### Activity 1.4: Responsibilities and reporting

Will provide you with an opportunity to identify limits of own responsibility and reporting requirements.

Read the question carefully and provide your answer in the space below (estimated time 15 minutes).

1. Referring to your current role or a previous one, list three of your responsibilities and give one example of a limit to your responsibilities.

## Clarify relationship of project to other projects and to the organisation's objectives

By the end of this chapter the learner should be able to:

* Explain how to clarify the relationship of a project to other projects.
* Identify how to clarify the relationship of a project to the organisation’s objectives.

### Relationship between projects

Organisations can have multiple projects on the go. You can show the relationship between multiple projects using inter-project dependencies in Microsoft Project.

‘When you link one project to another by creating dependencies between tasks in those projects, you aren't necessarily combining two projects into one. You are facilitating the management of two separate projects.

For example, your corporation's manufacturing environment may dictate that a process in one project depends on the scheduling of a process step from another project, such as the attachment of wings for an aeroplane being dependent upon a separate process in another facility that builds the wings. Perhaps other tasks in the other projects are also beyond your control’.

Source: [Microsoft Office - Projects support](https://support.office.com/en-us/article/link-projects-to-create-a-master-project-36bcd34d-db5c-403a-9eca-90e878920f2a?redirectSourcePath=%252fen-gb%252farticle%252fGoal-Create-relationships-between-projects-d1c54e93-7a35-41b4-bad2-d71ecefc7991&ui=en-US&rs=en-001&ad=US)

You will need to show that a step in your project relies on another project having completed a deliverable. You can do this by setting up inter-project dependencies to record and track related projects.

For more information on using Microsoft Office Project to link different projects together, please go to the following link - [Microsoft Office Projects](https://support.office.com/en-gb/article/Create-and-manage-inter-project-dependencies-2312f1a0-e7c1-4421-8015-10c95a931857?ui=en-US&rs=en-GB&ad=GB).

If your organisation does not use Microsoft Office Project or a similar type of system where you can track and monitor project progress, you could achieve clarification through researching the different related projects and clarifying deliverables with the people working on those tasks. You might be able to use a calendar or set reminders of targets and due dates which you are relying on.

### Broader organisation strategies and goals

Project objectives should relate directly to the broader organisational strategies and goals as the project is intended to enhance the business in these areas and this forms part of the justification of the project. The project may not relate to all of the strategic goals, particularly if it is a small, niche project, but it must relate to at least one.

Broader organisational strategies and goals may include:

* Market focus

The area of the market your organisation serves. It could be that your organisation wants to increase its share in the market or expand into a different market and the project is a vehicle to start or complete this expansion

* Organisational mission statement

The mission statement is a broad definition of the purpose of the organisation and its over-riding vision and/or goals. It is designed to unite and motivate stakeholders towards a common goal and usually sets out the company’s values and beliefs. It contains:

* the target market of the organisation
* the geographical limits of the organisation
* how the organisation intends to survive, grow and prosper
* the organisation’s philosophy
* the desired image of the organisation.
* Strategy plans

The strategic plan is the medium to long-term and overall objectives of an organisation, often correlating with the mission statement but an extended version. That said, it is not a detailed or lengthy document, rather it serves as a framework for more detailed business plans and projects. It gives direction and thought to the future of the organisation that would be lost without it. Many businesses either fail or tread water without strategic planning as they exist in the here and now without any thought for future existence. Strategy plans should be reviewed regularly and modified to reflect changes within the organisation. A strategy plan should:

* set out goals for the medium term (two to four years)
* be completed by the organisation’s director or owner
* contain strategic goals and not focus on day-to-day issues
* be realistic, balanced and critical
* be regularly reviewed
* documented.
* Values and ethics

The values and ethics of an organisation underpin the way in which it conducts its business, the expectations of the behaviour of employees and other representatives, and its mission statement and strategic goals, in non-monetary terms. It is often referred to as corporate social responsibility and includes consideration for:

* the environment
* the community
* diversity
* charity work
* global issues.

### Relationship between the project and broader organisational strategies and goals

The project should have been conceived as a result of the organisation’s strategic plan and mission statement. It will also be related to the market focus of your organisation. The whole project will be governed by the values and ethics of your organisation, for example, if your organisation is committed to improving environmentally sustainable working practices a constraint placed on the project may be that all resources must be locally sourced. In many ways, all of the broader organisational strategies are intrinsically linked because they reflect the ideology and beliefs of the organisation. The project is an extension of these goals thus all project activities must reflect all of them wherever possible.

It is important that the project team, if external to the organisation, must understand the broader organisational strategies and goals in relation to the project and keep them at the forefront of their minds throughout the life of the project. The project governance plan will ensure that this is monitored carefully at all stages in the life cycle of the project.

If the project stakeholders, including investors and sponsors, are new to the organisation, they should also understand and agree to the organisational strategies, mission statement and values, and ethics. Discrepancies at the beginning of the project over these issues will cause much greater problems later on in the project. If stakeholders do not buy into the overall aims of the organisation, you should seriously question their inclusion within the project.

If the project has been initiated to bring about a change in organisational strategies and goals, such as to expand into a different market area or to introduce a new form of corporate social responsibility in a venture to employ groups of disadvantaged people in a new store in the local area, for example, the strategy plan and mission statement must be changed to reflect this in order to keep the project in line with the organisational goals.

|  |  |
| --- | --- |
| Self-check questions icon | Practice activity |

#### Activity 1.5: Relationship of project

To provide you with an opportunity to identify how to clarify the relationship of project to other projects and to the organisation's objectives.

1. How can you clarify the relationship of your project to other projects? Explain in no more than 50 words.

2. Drawing on past experience, how do you clarify the relationship of your project to the organisation’s objectives? Explain in no more than 50 words.

## Determine and access available resources to undertake project

By the end of this chapter the learner should be able to:

* Describe a resource that would have helped in a project they have undertaken or a possible future project.

### Resources

The resources you need will vary from project to project. In the early stages of planning, you should determine what resources are available to you and others so that you can plan the project around them.

Resources may include:

* Materials and supplies.
* Technology.
* Financial resources.
* Human resources.

#### Materials and supplies

Sometimes materials and supplies are needed for a project – for example, paper, ink cartridges, bricks, wood, etc. What materials you need for a project will vary quite significantly depending on the type of project you are involved with. If you are involved with a building project, bricks, cement, paint and specialist tools might be needed; if your project involves creating a website, you would need computer equipment – for example, a PC, keyboard, mouse, laptop, tablet, etc.

To access this resource, you might need to speak to the procurement department.

#### Technology

Technology is most commonly used for communication within a project. You will need to find out from stakeholders their communication requirements/capabilities. Try and choose the most widely available communication technologies and ensure you use them within policies and procedures, e.g. respect privacy and confidentiality agreements.

Consider access to:

* shared storage drives
* video conferencing
* telephone
* email.

Other more specific technology may also be needed, depending on the type of project – for example, you might need specific software to create an animation, game or website.

To access this type of resource, you might need to speak to the digital or I.T. team.

#### Financial resources

Estimating the cost of resources is very important, as this will determine whether the project is viable in the first place and will allow you to budget effectively for the resource expenditure.

When estimating the cost of the resources required for the project, you will need to take into account:

* The cost of the resources
* overall cost
* agreed allowance for overrun
* possible fluctuations in price
* is the price likely to rise during or before the project?
* is there room in the budget to allow for fluctuations in price?
* Resource availability
* are you guaranteed to be able to access the required resources for the duration of the project?
* what will happen if the availability of resources is affected?
* is there an alternative?
* can we secure all of the required resources before the project begins?

It is good practice to have a contingency plan in place to deal with resource problems, such as a price rise or lack of availability; this allows you to prepare your project budgets accordingly and to prepare for such problems.

To access this type of resource, you might need to speak to the financial/accounting team.

#### Human resources

All projects need a team of people, called the project team, to realise the project. The human resources manager is responsible for organising the project team and attending to their welfare.

**The project team needs to be:**

* **recruited and/or acquired**
* **trained where and when necessary and records kept of courses undertaken and qualifications obtained**
* **organised into categories with designated roles and responsibilities – an organisation chart is a useful tool**
* **motivated and empowered**
* **kept updated with project news and information**
* **performance managed including professional development plans**
* **re-allocated to other project activities where necessary**
* **kept safe and well according to work health and safety legislation**
* **treated fairly in alignment with anti-discriminatory legislation.**

You will need to know who the people working on the project are and their individual responsibilities. To access this type of resource, you might need to speak to the human resources department.

|  |  |
| --- | --- |
| Self-check questions icon | Practice activity |

#### Activity 1.6: Identify available resources

Will provide you with an opportunity to identify how to determine and access available resources to undertake a project.

Read the question carefully and provide your answer in the space below (estimated time 15 minutes).

1. Briefly describe a project you have undertaken, or give an example of a possible project and describe a resource that would help you with this project. Also, state how you could access this resource

Topic 2

Develop   
project plan

# Topic 2: Develop project plan

## Overview

In this topic you will learn about how to:

2.1. Develop project plan in line with the project parameters

2.2. Identify and access appropriate project management tools

2.3. Formulate risk management plan for project, including Work Health and Safety (WHS)

2.4. Develop and approve project budget

2.5. Consult team members and take their views into account in planning the project

2.6. Finalise project plan and gain necessary approvals to commence project according to documented plan.

The activities throughout this resource will assist you in your learning. These activities do not form a part of your final assessment however they will contribute to your understanding of the topic area.

## Develop project plan in line with the project parameters

By the end of this chapter the learner should be able to:

* Create a contents page for a project plan in line with project parameters.

### Developing a project plan

A project plan is a living document that is expected to change throughout the project. It gives the project manager and staff working on the project a general guide or direction to follow.

The project plan contains all the planning documents including:

* Scope statement (this may have been updated since the PID was approved).
* Baseline schedule and budget.
* Stakeholder engagement and Communications plan—shows the processes that will be used to build and maintain stakeholder engagement and share information.
* Human Resource plan—shows the time different people are expected to work on the project and their roles and responsibilities.
* Quality plan—shows the standards and metrics to be used.
* Risk plan—shows how risks will be managed.
* Procurement plan—shows how resources needed for the project will be acquired.

Project parameters to consider may include:

* Project scope—a statement that sets out the limits of the project to which all that are involved agree, before the project beginning.
* Project stakeholders, including own responsibilities—who stakeholders are, own role and responsibilities and the limit of those responsibilities.
* Relationship of project to organisational objectives and other projects—for example, dependencies between tasks and up inter-project dependencies.
* Reporting requirements—who you report to and in what circumstances.
* Resource requirements—for example, equipment, staff, etc. needed for the duration of the project.

#### Scope baseline

Your scope baseline is your approved project scope. You can use it during scope change management to determine and prevent the occurrence of scope creep.

Your scope baseline will encompass:

* your project scope statement
* your WBS
* your WBS dictionary.

#### Cost baseline

Your cost baseline is a component of your project management plan, and it is a time-phased budget. You can use your cost baseline as a basis to measure, monitor and control the overall cost-performance of your project against.

#### Schedule baseline

Your schedule baseline is a specific version of your project schedule. This chapter will look into what a schedule baseline is and the ways in which you can communicate this with your stakeholders.

Regardless of the size of your project, a project schedule is a key part of project management. It is used in the planning stage of your project and uses estimation, educated guessing and prediction to reflect all the work that is associated with delivering your project on time. Due to this uncertainty, your project schedule should be updated constantly. Your project schedule is a tool that can be used to communicate what work needs to be done within your project, which resources the work requires and the timeframes in which it needs to be performed. It will also show you the sequence in which the project work should be done as well as the work has already been done.

You will need to take a flexible approach and prepare for the inevitability of change. If you make your plan flexible and include contingencies in it, you are going to be able to respond efficiently when you need to change something.

According to Team Gantt's [Writing and selling a masterful project plan](https://www.teamgantt.com/guide-to-project-management/how-to-plan-a-project/), *(https://www.teamgantt.com/guide-to-project-management/how-to-plan-a-project)* a good project plan should answer the following questions:

* What are the major deliverables?
* How will we get to those deliverables and the deadline?
* Who is on the project team and what role will they play in those deliverables?
* When will the team meet milestones, and when will other members of the team play a role in contributing to or providing feedback on those deliverables?

Communication is extremely important in project management, and this goes for the planning phase of the project too. You should work with everybody involved in the project to devise a project plan, discussing and clarifying points in the plan with the different stakeholders.

Project milestones may include:

* submission and approval of a project
* securing funding
* hiring of personnel/selecting personnel to work on the project
* receiving equipment for the project
* release of formal communication such as status reports
* final product/demonstration to the client.

### What are project deliverables?

Project deliverables are the building blocks of your overall project and are the tangible, measurable and specific results of the process of your project. Deliverables are the reason projects are created, and they may contain a number of smaller deliverables. They are the products and/or services you give to customers, clients and employees and they normally have a date for when they are due.

A project deliverable can be either an outcome that is to be achieved or an outcome that is to be provided. Although they are closely related to objectives, deliverables and objectives are not the same things. To achieve your project objectives, you will need to identify your project deliverables in order to help you.

Examples of project deliverables:

* reports
* documents
* server upgrade
* consumer goods
* hardware
* software
* design documents
* user manuals
* training program
* systems
* milestones.

In order to achieve these project deliverables, you should estimate the duration and effort, sequence and dependencies of the project tasks.

### Estimating the duration and effort of your project

You should estimate the duration and effort of your project in order to assign resources, determine how long your project will take and estimate costs.

Effort is concerned with the work that needs to be done within the project. Duration is how long the project is estimated to take. You can work out the duration estimate by taking the estimated effort and dividing this by the estimated resources.

For example, if you had to produce a 300-page report and you know you can roughly write 10 pages a day, you can estimate that the duration of your project will be 30 days as 300 ÷ 10 = 30.

### Sequence and dependencies of tasks

Sequence is concerned with the order of the tasks and activities within your project. Dependencies are the relationships among the tasks within your project which determine the order in which the activities need to be performed. They are the relationships of preceding tasks to succeeding tasks.

Once the tasks are created within your project, they need to be linked to show the relationships between them. Linking your tasks will create the task dependencies. The relationships between the project tasks drive the schedule for the project.

Sequence and dependencies may include:

* Deliverable milestones.
* Preferred, logical or required order of task completion.
* Relationship between tasks impacting on start and finish times and dates.

Dependencies can be mandatory, discretionary or external.

#### Mandatory dependency

A mandatory dependency is a project activity that must be carried out at a particular time within the project’s lifecycle. The nature of your project will dictate the order in which some activities should be performed. Mandatory dependencies may be requirements of the project’s contract, physical limitations or the laws that are in place.

#### Discretionary dependency

Discretionary dependencies are activities within your project that don’t necessarily have to be carried out at a particular time, but they should be. These dependencies are usually based on the project team’s knowledge as well as best practices. They outline how and in what order the project team would like the activities to be done; they enable the team to optimise the flow of work.

As a project progresses and adjustments are needed, these dependencies are often reviewed and altered if necessary.

#### External dependency

External dependencies are outside of the project and the team’s control; they are not part of the project activities. These dependencies should still be reflected in a project schedule as they will impact on the actual project activities.

##### Example:

Imagine your project is to build an extension on a house; a bathroom. Before you start anything you will be required to gain permission to build the extension; without this permission, your project cannot begin. This would be an external dependency that should be accounted for within your schedule. To paint the walls of the new bathroom, they will need to be built and plastered first. These are examples of mandatory dependencies; they must be done in that particular order.

When it comes to the final touches, such as the floor; should the skirting go on before or after? This would be an example of a discretionary dependency as it will depend on the knowledge and experience of the project team. One project team would put them on before; another project team would put them on after.

### Legal obligations

Ensure your project plan complies with any relevant legislation and standards. These could include:

* Trade Practices Act
* Competition and Consumer Act
* Work Health and Safety Act

Always make sure you are referencing the current legislation.

|  |  |
| --- | --- |
| E:\TAFE Digital\Projects\Accessibility Project - 03.04.2018\Template - SkillsPoint\Template - Icons\Reading LAVENDER.png | Reading list |

📚 [Australian Consumer Law](http://consumerlaw.gov.au/consumers-and-acl) *(http://consumerlaw.gov.au/consumers-and-acl)*

📚 Organisation for Economic Co-operation and Development (OECD) [International Guidelines for Consumer Protection in E-Commerce](https://www.oecd.org/sti/consumer/ECommerce-Recommendation-2016.pdf) *(https://www.oecd.org/sti/consumer/ECommerce-Recommendation-2016.pdf)*

📚 [Work Health and Safety Act 2011 (Cth)](https://www.legislation.gov.au/Details/C2018C00293) *(https://www.legislation.gov.au/Details/C2018C00293)*

📚 [Australia's anti-discrimination law](https://www.ag.gov.au/RightsAndProtections/HumanRights/Pages/Australias-Anti-Discrimination-Law.aspx) *(https://www.ag.gov.au/RightsAndProtections/HumanRights/Pages/Australias-Anti-Discrimination-Law.aspx)*

📚 [The Fair Work Act 2009 (Act)](https://www.alrc.gov.au/publication/grey-areas-age-barriers-to-work-in-commonwealth-laws-dp-78/2-recruitment-and-employment-law/the-fair-work-act-2009-cth/) (*https://www.alrc.gov.au/publication/grey-areas-age-barriers-to-work-in-commonwealth-laws-dp-78/2-recruitment-and-employment-law/the-fair-work-act-2009-cth/)*

📚 [Competition and Consumer Act 2010 (Australian competition and consumer commission (ACCC))](https://www.accc.gov.au/about-us/australian-competition-consumer-commission/legislation) *(https://www.accc.gov.au/about-us/australian-competition-consumer-commission/legislation)*

📚 [Privacy Act 1988](https://www.oaic.gov.au/privacy/the-privacy-act) *(https://www.oaic.gov.au/privacy/the-privacy-act)*

📚 [Corporations Act 2001 (Cth)](https://www.legislation.gov.au/Series/C2004A00818) *(https://www.legislation.gov.au/Series/C2004A00818)*

📚 [Environmental legislation](https://www.business.gov.au/Risk-management/Environmental-impact/Environmental-management-and-your-business) (*https://www.business.gov.au/Risk-management/Environmental-impact/Environmental-management-and-your-business)*

📚 AS ISO 31000:2018 Risk Management Guidelines (these guidelines can be accessed through the [TAFE NSW Standards library guide](https://tafensw.libguides.com/standards) *(https://tafensw.libguides.com/standards).*

|  |  |
| --- | --- |
| Self-check questions icon | Practice activity |

#### Activity 2.1: Project Plan

This activity will provide you with an opportunity to outline a project plan in line with the project parameters.

Read the question carefully and provide your answer in the space below (estimated time 20 minutes).

1. Create a contents page for a project plan in line with project parameters – include all the main headings you will need to cover

## Identify and access appropriate project management tools

By the end of this chapter the learner should be able to:

* Demonstrate how to access an appropriate project management tool.

### Project management tools

Organisation is vital to managing projects, and a number of tools and technologies will be used to maintain the smooth running of the project including GANTT charts and a project management information system.

A Gantt chart is a visual representation of a project schedule that shows you what has to be done within your project and when it needs to be done by. By laying out the project tasks and events in the order they should be completed in, the Gantt chart helps to sequence those events and tasks. It will show the project activities displayed against time and the time is broken down into increments; days, weeks or months. To the left of the chart is the list of activities, and along the top, there is a suitable timescale.

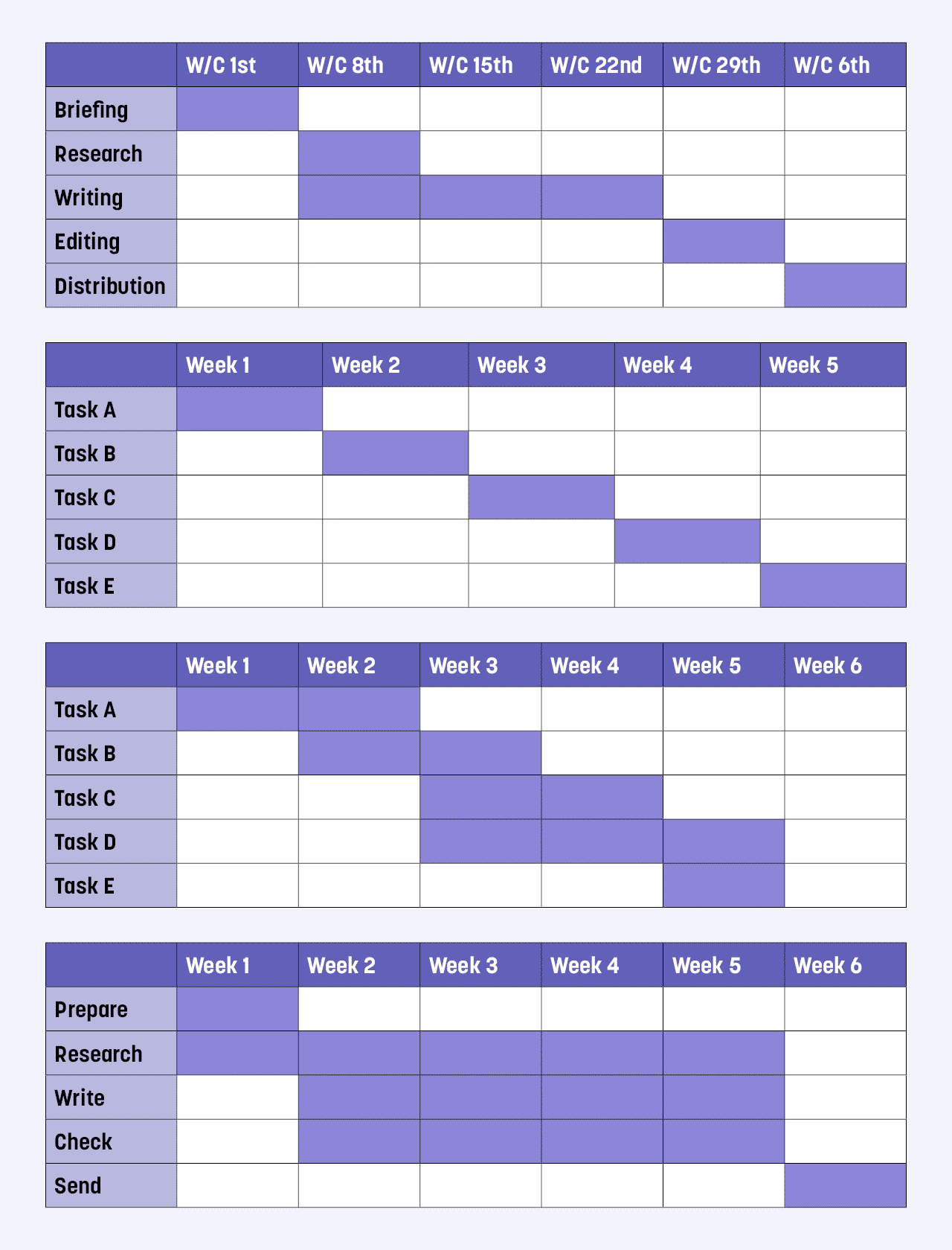
The activities are represented by bars, and the position and length of that bar reflect the start date, duration and end date of each activity. This chart uses the horizontal lines to show the amount of work that is done in certain periods of time in relation to the amount of time that was originally planned for those periods.

A Gantt chart allows you to easily see:

* the start and end date of the whole project
* what the various activities are
* when each activity begins and ends
* how long each activity is scheduled to last
* where activities overlap with other activities, and by how much.

The Gantt chart is the most common and easiest way to create dependencies and to show predecessor and successor relationships.

#### Examples of Gantt Charts



© TAFE NSW 2019 Examples of Gantt Charts

#### PERT chart

Another tool to map out the activities in the project is a Program Evaluation Review Technique, or PERT chart or network diagram. This tool illustrates the relationships between all the required tasks and the flow of work throughout the project. Review the [Plan2go example of a PERT chart](http://plan2go.nctafe.edu.au/assets/document-library/Project-Office/Project-tool-examples/Pert-chart-example.pdf) *(http://plan2go.nctafe.edu.au/assets/document-library/Project-Office/Project-tool-examples/Pert-chart-example.pdf)*

#### Project Management Information Systems (PMIS)

You will probably use a project management information system to assist you in reporting on performance and issues arising from governance arrangements. A project management information system is a database that provides project managers with techniques and tools to collect, combine and disseminate information through electronic and manual channels during the planning, execution and closing stages of a project.

A PMIS is a vehicle through which senior and middle leaders of the project communicate with one another. It can be as simple as a Microsoft Office file to a bespoke PMIS enterprise package. There are also web-based PMISs.

During the planning stage, a PMIS is used to set all the frameworks for the project and defines the scope baseline. It is used to set out the objectives and timelines of the project so that during the execution stage all of the accomplishments of the project can be measured against the initial plan at different stages and reports generated for stakeholders. It also enables project managers to manage materials, keep a record of financial data, and keep a record for auditing and reporting purposes.

At the close of the project, the PMIS is used to review the project against the goals and objectives to check if all objectives have been achieved and also to highlight areas for improvement in efficiency for future projects. It can then be used to produce a final report on the project.

**A project management information system:**

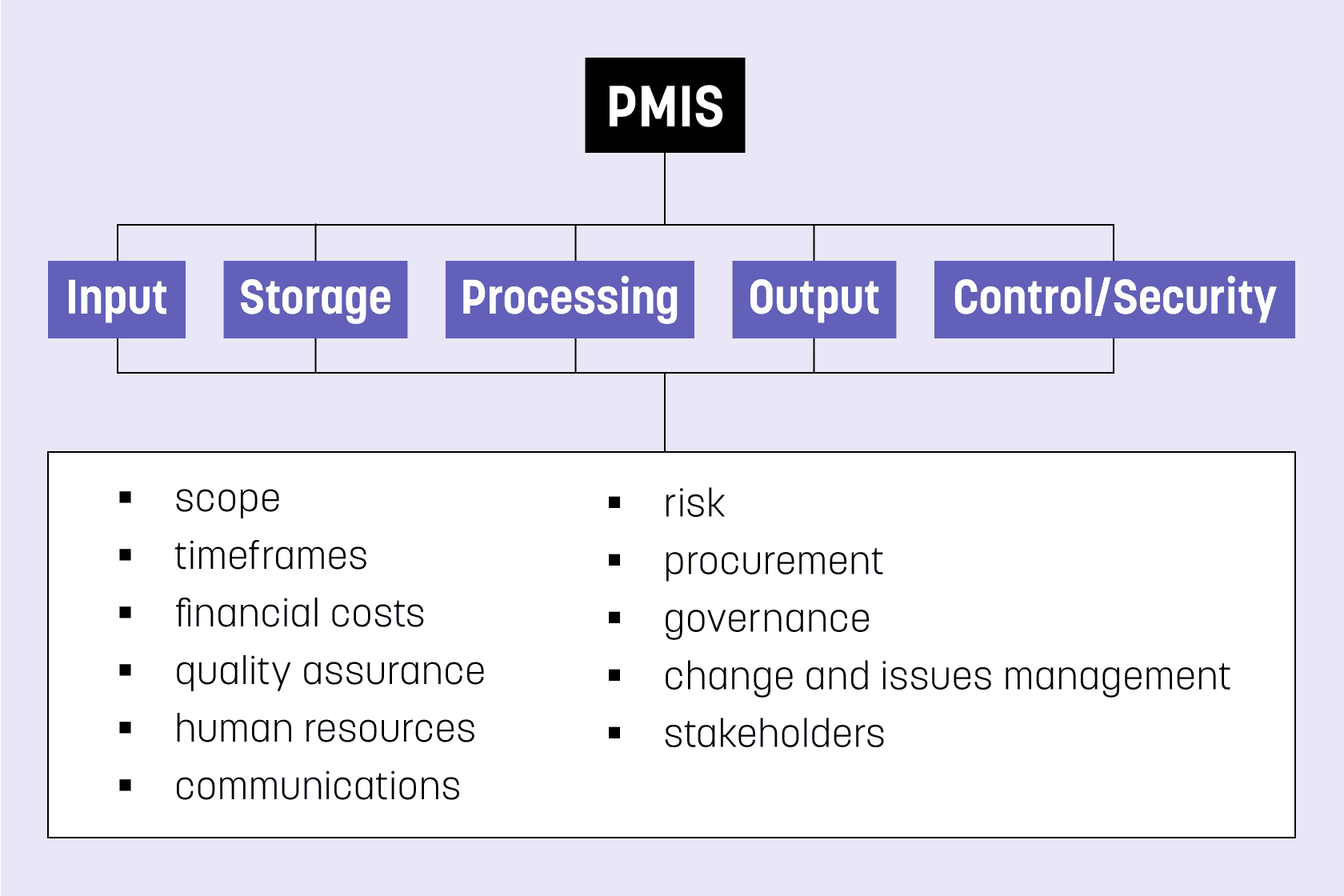
* Is a means of communicating knowledge about the project, including:
* scope
* timeframes
* financial costs
* quality assurance
* human resources
* communications
* risk
* procurement
* governance
* change and issues management
* stakeholders
* Provides a systematic approach to the storage, searching and retrieval of information relevant to the project so that information is easily accessible. A PMIS automatically controls the following processes in relation to data:
* input
* storage
* processing
* output
* control/security
* may include:
* access authority levels
* complex computer-based systems
* data ownership considerations
* modified systems to cater to unique project requirements
* privacy considerations
* simple manual systems.

A PMIS sets a standard protocol for storing information ensuring that it is gathered, collated and recorded in a consistent manner throughout the life of the project. Procedures and formats for documenting information will be dictated by the PMIS so that all who input information will do so to the agreed standard. The consistency makes analysing and comparing information throughout different stages of the project much more efficient and accurate.

A PMIS will usually be managed by a designated person or a team of designated people responsible for different areas of the project. The information within the PMIS will be quality assurance checked by them to ensure the accuracy and relevance of information communicated to stakeholders.

A PMIS helps to keep information relevant and up to date. When reporting during the project, the information that is communicated must be real-time and accurate at the time of reporting. A PMIS can generate automatic updates of specific measures within the project. A simple manual system does not have this facility and is open to human error.

Having access authority levels, data ownership and privacy considerations all help to preserve the integrity of the information held on the PMIS.



© TAFE NSW 2019 PMIS visual graphic

#### Examples of project management tools

Further examples of project management tools include:

* Deliverables—what the end product/outcome of the project is.
* Work breakdown—a breakdown of the project into smaller, manageable sections to identify the resources needed for each activity and to allocate roles and responsibilities for each project team and member.
* Budget and allocation of resources—overall budget and breakdown, e.g. for different departments, items.
* Timelines—deadlines for different milestones.
* Risk management—identification of the potential risks and plan for dealing with them.
* Recordkeeping and reporting—for example, recording, storing and disposing of records and confidentiality procedures.

|  |  |
| --- | --- |
| Self-check questions icon | Practice activity |

#### Activity 2.2: Project management tools

Will provide you with an opportunity to demonstrate how to identify and access appropriate project management tools.

1. Demonstrate how you can access an appropriate project management tool.

This activity can take place in a workplace environment or simulated setting.

It will need to be observed by the trainer/assessor or third party

## Formulate risk management plan for project, including Work Health and Safety (WHS)

By the end of this chapter the learner should be able to:

* list three things a risk management plan should include
* identify a potential WHS risk in their current or previous workplace.

**Effective risk management**

Risk management is an incredibly important aspect of project management and should be embedded thoroughly into the project plan.

A hazard is the threat of potential injury, harm to a person, property, environment; it is also the threat of damage to your business, be it profits, reputation or inadequate working practices. This provides the opportunity for other organisations to step in and take a share of your business, which further damages your organisation’s ability to bounce back.

Businesses that plan and document their risk management, and review this regularly for effective management of risks, are better placed for successful operations. By staying alert and ahead of any risks, they take the necessary preventative actions to divert negative impacts.

Even the most thoughtfully and carefully considered plans will face potential hazards and risks during the life cycle of the project because nobody can predict the future. Dealing proactively with potential risks and issues by minimising threats to the project and maximising opportunities that arise is the key to risk management, and in some cases can enhance the success and prosperity of the project.

1. Effective risk management should include the following:

* **Make risk management part of the project plan** – risk management should be embedded in the plan and risks and issues expected, not hoped that they will not be encountered. It should also be included in daily briefings, team meetings and reviews throughout the life of the project.
* **Identify risks early in the project** – accepting that your project is going to encounter risks and issues allows you to identify potential risks in the planning stages. Use lessons learned from previous similar projects, members of the project team, and external experts to identify potential risks. Also, consider possible risks in the documentation of the project.
* **Communicate risks** – every member of the team should be responsible for communicating risks to the relevant authority as soon as they emerge. Risks can only be dealt with if the project manager is aware of them. Risks should be included on the agenda of all meetings with all stakeholders, and serious threats should always be communicated to the sponsor.
* **Consider threats and opportunities** – some issues that occur can be golden opportunities to improve the project. Don’t always take risks to be negative.
* **Designate ownership of risks** – once you have identified a potential risk, assign accountability to a member of the project team. This makes those members more aware of the risks and subsequently more proactive in dealing with them, especially if a lot of money is at stake.
* **Analyse and prioritise risks** – you will not have time to deal with each risk in the same manner; identify the most serious risks and deal with these first and thoroughly.
* **Plan and implement a risk response** – put in place procedures for dealing with risks and issues. Responses include risk avoidance, risk minimisation, and risk acceptance.
* **Maintain a risk register/log** – keeping a register allows you and your project team to review and monitor risks and is useful when completing the lessons learned report. A risk register should contain:

a description of the risk

cause and effect of the risk

ownership of the risk

risk response

outcomes.

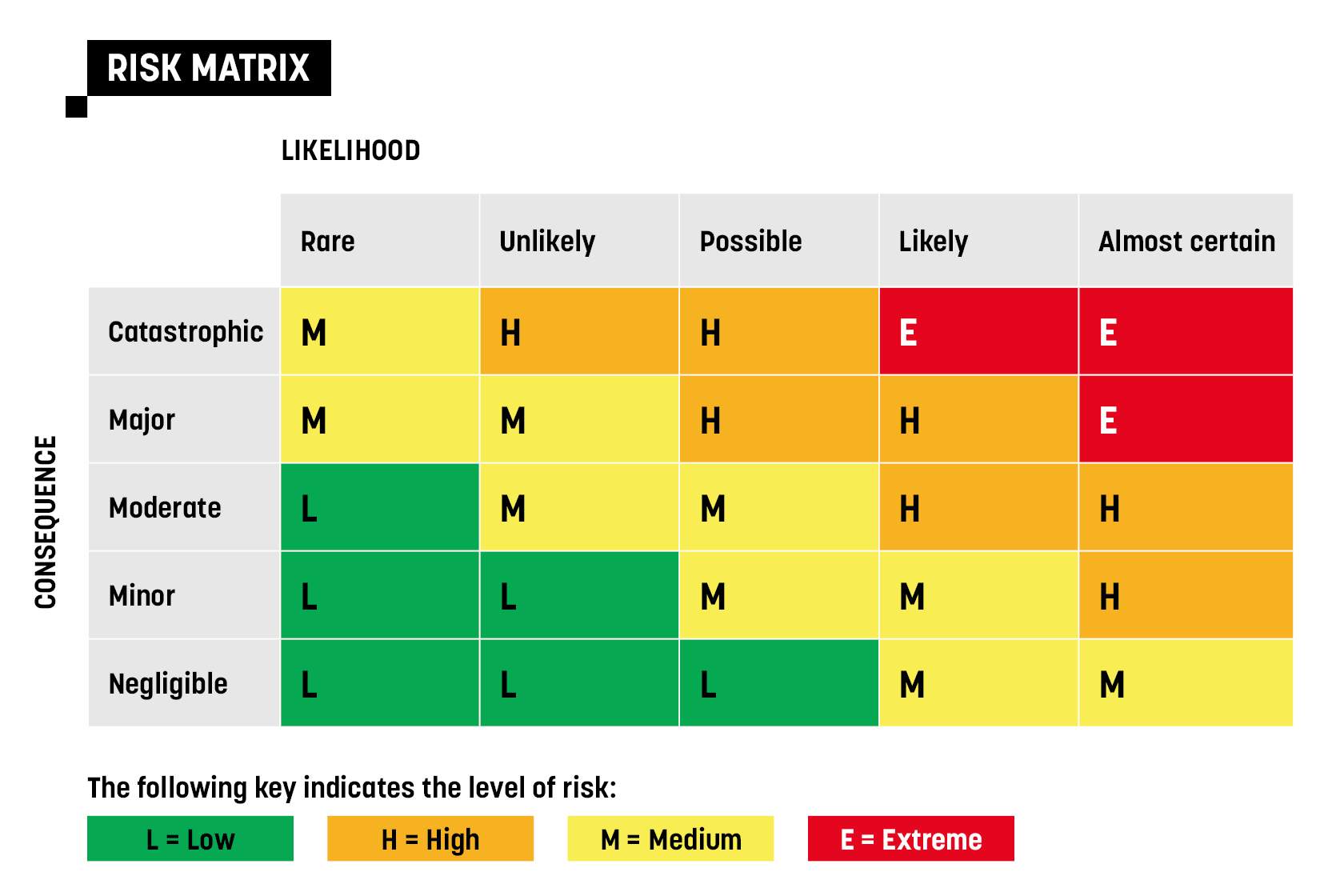
### Risk management plan

A risk management plan is a document used to foresee risks and their impacts, as well as identify the standard response to them.

Risk management planmay include:

* audit trail for risk management over the project life cycle
* format of information
* organisation systems and risk methods
* manual and computerised systems
* risk register
* summary outcome of risk processes.

The risk management plan will contain a risk assessment matrix, such as below:



© TAFE NSW 2019 Risk matrix

The Risk Matrix shows column headings indicating the likelihood of risk: left to right: rare, unlikely, possible, likely and almost certain. The row headings show the possible consequence: top to bottom: catastrophic, major, moderate, minor and negligible. The matrix fields are populated with risk levels: low, medium, high and extreme, according to the corresponding column and row headings.

Negligible and rare, unlikely or possible are a low-risk level; negligible and likely or almost certain are a medium rating.

Minor and rate or unlikely are a low-risk level; minor and possible or likely are medium risk level; minor and almost certain is high-risk level.

Moderate and rare is low-risk level; moderate and unlikely or possible are medium risk level; moderate and likely or almost certain are high-risk level.

Major and rare or unlikely are medium risk level; major and possible or likely are high-risk level; major and almost certain is extreme risk level.

Catastrophic and rare is medium risk level; catastrophic and unlikely or possible is high-risk level; catastrophic and likely or almost certain is extreme risk level.

A risk matrix can help you to decide what action to take regarding a risk and how to prioritise your actions regarding risks.

The following key indicates the level of risk:

* E = Extreme
* H = High
* M = Medium
* L = Low.

### Risk treatment plan

A risk treatment plan should include the risk/s to be treated, the cause/s of risk, the objectives of the plan, responsibilities and budget, risk treatments and how the treatment will be monitored.

Below is a sample risk response plan.

| Risk title | Risk details | Risk priority | Risk treatment |
| --- | --- | --- | --- |
| Failure to meet schedule | Failure to meet schedule due to bad weather, staff shortages. Constant bad weather over the short project time frame could delay the project. | Low | Accept that if this does happen it will only push back the project a short time. |
| Cost overruns for installing bins | External costs include contractor for installing some of the bins, possible overtime, cement and damage to tools. The cost of the bins has not been included as these have already been purchased. | Low | Fixed price quote obtained from contractor for their two days of work. |
| Bins will be stolen | The bins may be stolen from park locations. | Low | Cement bins in to minimise risk of being removed, pushed over or stolen. Council must maintain insurance to cover the theft of council property in public reserves. |

*Sample risk response plan for installation of animal litter bins and bag dispensers in council parks.*

|  |  |
| --- | --- |
| Self-check questions icon | Practice activity |

#### Activity 2.3: Risk management plan

To provide you with an opportunity to identify how to formulate a risk management plan for a project, including Work Health and Safety (WHS).

1. What would a risk management plan include? List three different things.
2. Identify a potential WHS risk in your current or previous workplace.

## Develop and approve project budget

By the end of this chapter the learner should be able to:

* Describe how to begin to develop a project budget, including three different techniques to identify project costs.

### What is a project budget?

A project budget is a key element of your project proposal and is an essential tool that will be used by many different groups of people that are involved with your project.

For example:

* A project manager will use the project budget to determine whether the project is on track.
* To monitor particular project milestones, the project personnel will use the project budget as a guideline.
* The client will use your project budget to assess the overall success of the effort.

Ultimately, your project budget should be a detailed estimate of all the costs that are required to complete your project tasks. It should be an amount that you can spend without having to report back and ask for more money. Your project budget can help to manage expectation and can give the relevant information needed to develop a cost/benefit analysis for your project. You can also use your project budget throughout the life cycle of your project to check that it is on track financially.

Your budget will need to specify all of the costs of your project. There are two types of costs involved with your project budget: indirect and direct. Although costs will vary depending on the nature of your project, they are necessary to complete your project budget. One of the major components of your project budget will be the necessary human resources and their salaries, wages or commissions. This only involves the people that are directly engaged with your project.

Examples of direct costs include:

* Labour/human resources
* Raw materials
* Equipment
* Travel costs
* Training costs
* Software licences
* Consultant fees.

**Examples of indirect costs include o**ffice expenses, such as:

* equipment
* rent
* telephone
* internet
* insurance.

### ****Developing a project budget****

Your project budget should be linked to the key outcomes of your project. You should establish a set of reference baselines. As your project progresses, you should monitor the project work then analyse your findings. The end result should be forecasted and compares with your reference baselines. If the end result is not satisfactory, you may need to make adjustments to the project and repeat this cycle at suitable intervals.

How much detail should your project budget have? This will depend on the nature of the project itself and the organisational policies that may be in place. However, it is recommended that you provide the details of each individual supply item and its cost within your project budget. Remember that your project budget is different from your project costs. You should start developing your project budget by identifying your project costs.

**There are two main approaches that are used when developing a project budget:**

* the top-down approach
* the bottom-up approach.

A good estimate will clearly define:

* what your project will accomplish
* the assumptions that you have made
* how long your estimate is valid for
* how much the project will cost based on current information.

When identifying your project costs, you need to be realistic. It is sometimes helpful to look at past projects that you have been involved with to give you an idea of how to identify the project costs. There are many techniques that can be used to identify project costs.

For example:

* ballpark estimation
* budget estimation
* definitive estimation
* three-point estimation
* historical project estimation
* resource cost rates estimation software.

#### ****Assessing risks****

The assessment of potential risks is very important for your budget to be successful.

**Risk items include unknowns, such as:**

* **team experience**
* **obscurity of technology**
* **location of development teams**
* **planning time shortages.**

#### ****Top-down approach****

The top-down approach to project budgeting often starts with senior management deciding on how much an overall project should cost. Then, this amount needs to be divided between each task involved with the project. This process should be more than just guessing; you need to give details on how you will complete each task within the allocated budget. This approach allows you to use any previous experience to judge whether the project budget looks realistic.

An advantage of this approach is that it focuses on completing your project within the allocated budget. This can reduce the chance of any wasteful practices, leading to a more efficient way of working. However, a disadvantage is that it relies on previous experience to judge the budget; assuming that the person that is developing the budget has the required knowledge to make reasonable estimates.

#### ****Bottom-up approach****

The bottom-up approach looks at the cost of the lowest-level project tasks. From this, you will have to work upwards to estimate the total cost of your project. You should start by identifying the tasks that are involved in your project and then calculate the direct and indirect costs for each task. From this, you will be able to estimate the total cost of your project.

An advantage of this approach is that it is an accurate method of developing a project budget. Also, this approach can be good for team morale as it usually involves everyone. A disadvantage of this approach is the difficulty of creating the list of tasks involved in your project. If any task is forgotten about and missed out; this will throw your budget out.

The following are methods you can use to estimate:

* analogous estimating
* historical estimating
* parametric estimating
* three-point estimating
* heuristic estimating
* reserve analysis.

##### Analogous Estimating

Analogous estimating uses an analogy to compare a similar project to the current project. Analogous estimating can be used to estimate the entire length of time a project, or a phase of the project will take.

Researching real data from similar projects can be quick and easy, thereby saving time and money. However, analogous estimating may not be as accurate as other estimating techniques because all projects are different in some way. Some of the data related to similar projects may not be correct for this particular project. A project manager can utilise expert judgment to analyse the differences and make adjustments.

##### Historical Estimating

Very similar to analogous estimating, historical estimates takes data from past projects to estimate the time it will take to undertake similar work on this project. One of the potential difficulties with the use of historical estimates is that data may be out of date. A task that took 5 hours on a past project may only take 2 hours on this project as a result of advances in technology and faster or more productive machinery. Alternatively, a task that took 2 hours on a past project may take 5 hours on this project as a result of changes in laws that require safety equipment to be in place and checked prior to starting the task.

##### Parametric Estimating

Parametric estimating uses a relationship between two variables. This is done by breaking the project into fundamental parts such as materials, workers and equipment, and any other activity that can be measured and performing some calculations. For example, if a 10m3 hole can be dug at a rate of 5m3 per hour, the estimated duration of the activity will be two hours.

Analogous, historical and parametric estimating can be combined together to create more accurate estimates. However, the process of combining data can be time-consuming.

##### ****Three-point Estimating****

Three-point estimating relies on coming up with three potential estimates:

* **optimistic**—best-case scenario
* **pessimistic**—worst-case scenario
* **most likely**—how long it is most likely to take.

Triangular distribution can then be used to get an average of the three estimates or beta distribution for a more accurate result.

* **Triangular Distribution.** Time Estimate = (Optimistic + Most Likely + Pessimistic)/3 (te o + m + p)/3.
* **Beta Distribution.** Time Estimate = (Optimistic + 4 x Most Likely + Pessimistic)/6 (te = o + 4m + p)/6.

Most likely is the average of optimistic and pessimistic, which are the highest and lowest numbers that will not be exceeded.

For example, you expect the foundations to most likely take 24 days (m=24) but there may be bad weather expected so there are potential delays that could push the pessimistic estimate to 36 days (p=36) and the optimistic estimate is 20 days (o=20). This gives you:

* **Triangular Distribution.** te = (20 + 24+ 36)/3 = 26.6 days
* **Beta Distribution.** te = (20 + 4 x 24 + 36)/6 = 25 days

Choose the timeline that is most likely to occur so if it is winter and there are storms predicted when planning foundation work, go with 36 days. But what are the odds of it exceeding 36 days? The standard deviation is **σ**te = (b – a)/6. Add up all the most likely time durations (∑m) and standard deviations (∑**σ**) for every activity in the schedule and you will know how long the project will take as well as the standard deviations.

For example, to find the deviations for completing the foundations – σte  = (36 – 20)/6 = 2.6 days. You can convert the project estimates into confidence levels:

* + 1 **σ** = 68.26% confidence (34% on either side of the mean)
* + 2 **σ** = 95.46% confidence (34%+13.5% = 47.5% on either side of the mean)
* + 3 **σ**= 99.73% confidence (34%+13.5% + 2.5% = 49% on either side of the mean).

So, the estimate for completing the foundation is:

* 24 days is the official estimate
* 27 days with 68% confidence
* 30 days with 95% confidence
* 33 days with 99.7% confidence.

##### Heuristic Estimating

Heuristic estimating is a fancy name for the rule of thumb. Through experience and accepted general standards, rough estimates can be made about how long part of the project will take. For example, you know it takes 7 days for a concrete slab of a certain size and depth to cure. Heuristic estimating is useful for parts of the project where you can make an estimation based on experience and knowledge.

##### Reserve Analysis

Reserve analysis is a technique used for putting buffers in place where risks are likely to occur. Buffers are also referred to as contingencies or reserves. For example, if we know that wet weather could potentially cause a delay we may add one week to the activity as a buffer.

#### ****Contingencies****

**There are many common strategies for developing your project budget, for example:**

* **you should plan for the worst**
* **points within your project where changes are likely to occur need to be identified**
* **once identified, these areas should be closely watched**
* **develop a contingency budget – just in case things go a bit wild.**

The expenses that are involved in your project may seem straightforward. However, there are many unknowns that can affect your project, how and when it is carried out and how it is completed. A contingency reserve should be added to your project to cover any possible risks. This fund can then be used for the occurrence of any unexpected events during your project life cycle. You should adjust your contingency level to match the risk level that you have identified for your overall project.

Contingencies that may relate to your project budget can include:

* project’s unknowns or risks contingency
* cost estimating contingency
* design contingency
* bid contingency
* construction contingency
* cost escalation contingencies.

Contingency and confidence have a transverse relationship. The more confidence a project manager and team have in their estimates, the less contingency will be needed. However, if a project manager and team have low confidence in their estimates, more contingency will be needed.

Although your budget should be based on the best knowledge that is available, you should remember that it is only an estimate.

Who should approve your project budget? You should know the answer to this before you start developing your budget. It could be the project manager, the head of finance or the project manager’s supervisor.

#### ****Using project management software****

It is important to choose the right project management software to use. Although it will not eliminate any cost overruns, it can help you to manage them. The correct project management software can show you where your project stands at any point in its lifecycle and can highlight exactly how much money has been spent.

|  |  |
| --- | --- |
| Self-check questions icon | Practice activity |

#### Activity 2.4: Develop project budget

This activity will provide you with an opportunity to describe how to develop and approve project budget.

Read the question carefully and provide your answer in the space below (estimated time 20 minutes).

1. Describe how you should begin to develop a project budget, including three different techniques you could use to identify project costs.

## Consult team members and take their views into account in planning the project

By the end of this chapter the learner should be able to:

* List verbal and written communication methods they could use to consult with team members about planning a project.

### Consulting with team members

Frequent and appropriate communication with all involved is essential to the smooth running of the project.

You may need to consult with specific members of the project team to determine realistic deliverables because you may not have the expertise and/or knowledge to understand what sub-deliverables are required for each main deliverable. By consulting in the planning stages, you ensure that all necessary deliverables are identified before work begins. You may also wish to consult lessons learned reports and other documentation from previous similar projects about the deliverables employed and how effective they were on the success of the project.

Bear in mind when consulting with stakeholders about their expected deliverables that their expectations are relevant to the project’s objectives and not just beneficial to them.

A communications strategy may include

* List of which team member is responsible for particular communication activities
* Methods and protocols for communicating information which may include:
* verbal communication:
* on-site in person
* at meetings
* informal briefings
* brainstorming sessions
* over the telephone/internet/video conferencing
* press conferences
* written communication:
* email
* letters
* update reports
* audits
* inventories
* newsletters
* Which stakeholders need what information and their responsibilities within the communication flow.
* When information is communicated—the frequency of regular forms of communication throughout the life of the project.
* How sensitive and confidential information is handled taking into account the Privacy Act 1988.
* Potential constraints affecting the flow of communication.
* The resources allocated to communication.
* Standard forms or templates for specific forms of communication.
* A procedure for channels of communication hierarchy.
* Processes for resolving any communication-based conflicts or issues.
* Communications networks and their uses.

|  |  |
| --- | --- |
| Self-check questions icon | Practice activity |

#### Activity 2.5: Consult team members

We will provide you with an opportunity to identify how to consult team members and take their views into account in planning the project.

1. List two verbal communication and two written communication methods you can use to consult with team members about planning the project.

## Finalise project plan and gain necessary approvals to commence project according to documented plan

By the end of this chapter the learner should be able to:

* List four steps to gain approval of the project plan from project authorities.

### Finalise project plan and gain approvals

Before the project can begin, the project plan needs to be approved and signed off by the sponsor and other key stakeholders. The approval of the project plan means that the objectives and deliverables have been reviewed and agreed to. The signing off of the project plan indicates the completion of the planning and design stage and can be regarded as a project milestone. It also represents a commitment from the sponsor and key stakeholders to continue with the project under the agreed constraints.

Having consulted the sponsor and key stakeholders about their requirements for the project objectives and deliverables during the initiation stage the project plan should reflect their expectations and the approval should be a simple process.

Gaining approval of the project plan from project authorities may mean you have to:

* Review project plan document and ensure accuracy and completion
* Disseminate the project plan to the relevant stakeholders in an agreed format and to an agreed timescale
* Arrange a meeting with the relevant stakeholders to review and discuss the proposed project plan. Minute the meeting and use the minutes to amend the project plan if and where necessary
* Amend the project plan according to the requirements of the relevant stakeholders and re-submit the plan to an agreed timescale, arranging another meeting if necessary to review and discuss the amendments
* Request a decision from the relevant stakeholders as to whether or not the plan has been approved in order for the project to continue. If the plan has not been approved, the reasons should be documented by the relevant stakeholder
* Obtain signatures from all relevant stakeholders on a separate project plan approval document which should be an appendix to the project plan.

#### **Good negotiators**

Negotiating is a skill that can take a long time to perfect with the ideal outcome being a win-win solution for both parties. It is a process that can take a long time.

Best practice for negotiations:

* Identify the factors upon which each stakeholder is insistent.
* Identify areas for negotiation on all sides.
* Identify with whom the balance of power lies regarding bargaining strength between the stakeholders and the project team – which has more evidence for their case than others?
* Be prepared for all eventualities when you enter negotiations with stakeholders, so you are not caught off guard.
* Always use reliable facts and figures that are accurate and cannot be questioned.
* Prepare an agenda before the meeting and ensure all members of your team are briefed and provided with sufficient information so as not to compromise the negotiations.
* Start with a wide-ranging proposal as opposed to small details to leave plenty of room for manoeuvre.
* Do not continue the meeting if communications or negotiations are breaking down – call a recess or rearrange the meeting for another time.
* Be fair and reasonable.
* Ensure all negotiations are documented and recorded clearly, and wherever possible signed by all parties, so that you have an audit trail and an accurate record of the agreement should it be disputed when the project plan is re-submitted.

#### Project management plan approval

The approval document should be signed and dated by all relevant stakeholders with their name, title and role clearly documented.

Relevant stakeholders may include:

* Project manager
* Project sponsor
* Investors
* Business steward.

The approval document will be simple and contain just a paragraph that states all the signatories have reviewed the project plan and agree to the approaches and schedule it sets out. It may also have a clause that states how any changes to the plan should be approved and documented.

|  |  |
| --- | --- |
| Self-check questions icon | Practice activity |

#### Activity 2.6: Finalise project plan

This activity will provide you with an opportunity to identify how to finalise a project plan and gain necessary approvals to commence a project according to documented plan.

Read the question carefully and provide your answer in the space below (estimated time 20 minutes).

1. List four steps you might need to take to gain approval of the project plan from project authorities.

Topic 3

**Administer and monitor project**

# Topic 3: Administer and monitor project

## Overview

In this topic you will learn how to:

1. Take action to ensure project team members are clear about their responsibilities and the project requirements
2. Provide support for project team members, especially with regard to specific needs, to ensure that the quality of the expected outcomes of the project and documented timelines are met
3. Establish and maintain required recordkeeping systems throughout the project
4. Implement and monitor plans for managing project finances, resources and quality
5. Complete and forward project reports as required to stakeholders
6. Undertake risk management as required to ensure project outcomes are met
7. Achieve project deliverables.

The activities throughout this resource will assist you in your learning. These activities do not form a part of your final assessment however they will contribute to your understanding of the topic area.

## Take action to ensure project team members are clear about their responsibilities and the project requirements

By the end of this chapter the learner should be able to:

* Explain what an organisational chart is and how it can to ensure project team members know their responsibilities.
* Name two other methods to ensure team members are sure about their responsibilities.

### Reporting lines

When assigning roles and responsibilities for reporting lines, you will need to liaise with the communications manager as the communications team will be instrumental in preparing and delivering reports to relevant stakeholders. The communications plan should be determined in close collaboration with project governance policies and procedures.

#### Project reports

During the life of the project, there will be a number of reports to prepare, produce and release for different aspects of the project and for different stakeholders which must be taken into account when negotiating roles and responsibilities for reporting lines.

Reporting lines need to be established for the following project reports:

* **Project status reports**—this report details the progress of the project including:
* current status
* next steps necessary to move the project along
* any obstacles or problems that are preventing progress
* key metrics of the project
* **Risk register**—self-explanatory, the risk register is an ongoing document that reports the following:
* potential risks to the life or progress of the project
* the extent of the potential negative impact on the project caused by the risks
* contingency plans to deal with the risks
* **Issue log**:
* a document that reports and records risks that have been realised and unexpected events that have occurred and interrupted the project
* it documents the way in which the incident has been dealt and the impact it has had on the project
* the accuracy of these reports is important for auditing purposes
* **Executive summary**—a detailed report that provides in-depth information about the status of the whole project and the impact it is envisaged to have on the bottom line of the organisation
* **Everything else report**—these reports are specific to each project and can be about anything and everything associated with it.

#### Project manager

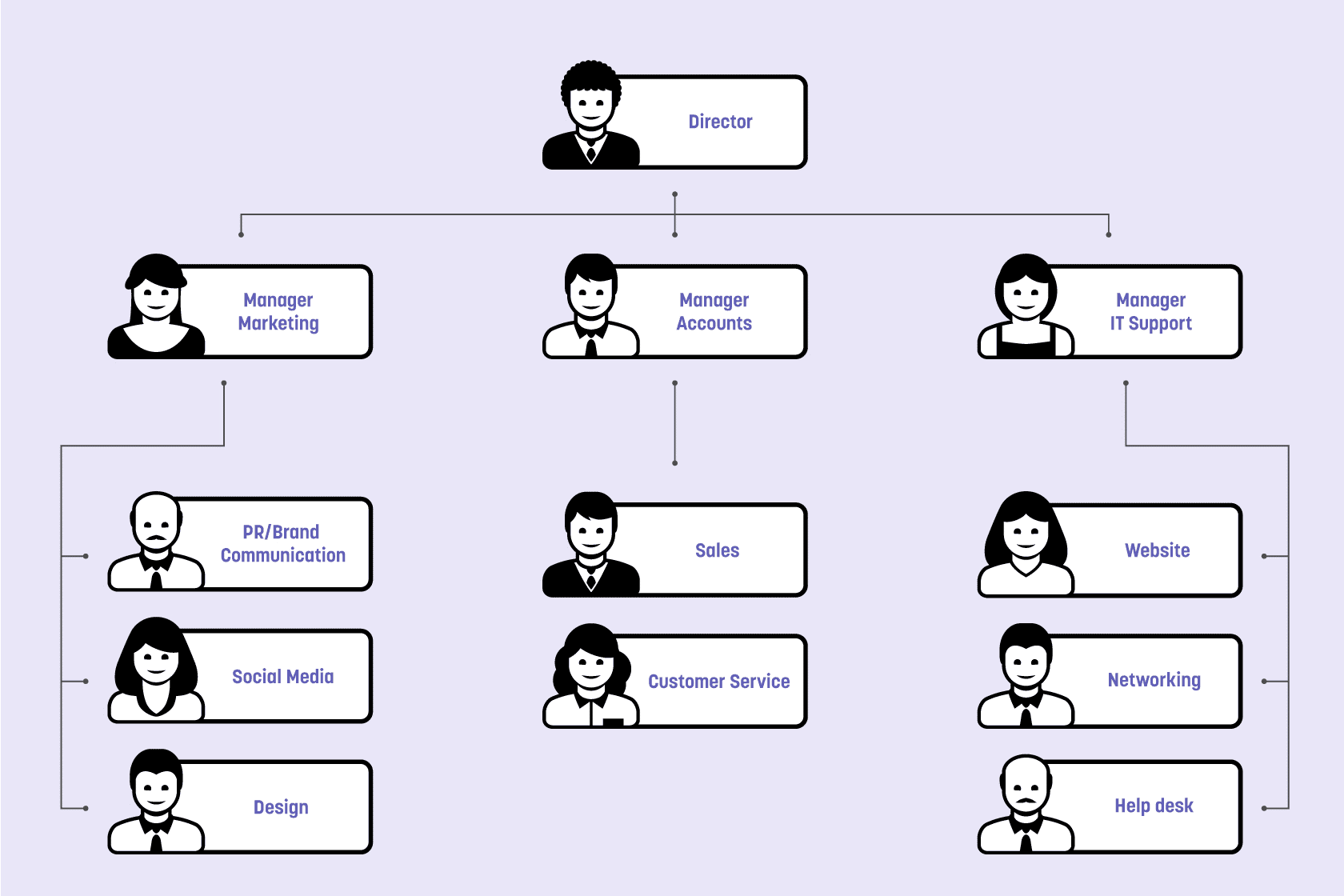
The Project Manager is responsible to lead, motivate, support and manage a project team for optimal individual and team performance to achieve the overall objective of the project. As Project Manager, you will use your communication skills to ensure there is a shared understanding of project roles and expectations and take action to ensure project team members are clear about their responsibilities and the project requirements.

#### Project team members (subordinates)

Subordinates are the people that make up the project team; the employees, the contractors, the subcontractors, and possibly volunteers, and are the people who get the job done. They may consist of general assistants, team leaders, middle managers and departmental managers, depending on the size of your organisation. They may be outsourced third parties. It is important that each member of the project team has their role and responsibilities made clear to them at the start of the project.

#### Organisation chart

An organisational chart depicts the structure of an organisation's authority and hierarchy. It shows the relationships between each role of the organisation. They usually show the director at the top followed by senior management, middle management and employees at the bottom. It can be used to map out roles and responsibilities of each department and member of the project team. You might have organisational charts for different functions within the project.



© TAFE NSW 2019 Organisational chart

Alternatively, a project could create a Responsibility/Accountability matrix to illustrate which team members have which responsibilities and activities. Examples of project team structures are located in Section 2.1 and Appendix A of the [Plan2Go Project Plan template](http://plan2go.nctafe.edu.au/Security/login?BackURL=%2Fintranet%2Fdocument-library%2F%3Fcat%3D7368) *(http://plan2go.nctafe.edu.au/Security/login?BackURL=%2Fintranet%2Fdocument-library%2F%3Fcat%3D7368)*. You may be required to log in using your TAFE credentials.

### Work breakdown structure (WBS)

A WBS is a way of breaking down the project into smaller, manageable sections in order to identify the resources needed for each activity and to allocate roles and responsibilities for each project team and member. Making it a visible diagram, like the organisational chart above, ensures that subordinates know their roles and responsibilities. It also enables you to identify potential risks in each section and put in place contingency plans should the risk be realised.

### Task descriptions

Within a project, task descriptions could be written for a variety of purposes including:

* Specific project activities
* Evaluations and reporting on project activities and progress
* Job descriptions for individuals that determine their roles and responsibilities including all stakeholders
* Task descriptions for use on requests for quotation, proposal, or tender in order to furnish potential suppliers with sufficient information about the brief.

Deciding who should write each task description should take into account their knowledge on the subject and their authority within the organisation. For example, a procurement officer would not write a task description for the communications team

### Team culture values

Determining and promoting team culture values is an important role within a project team to ensure that each member of the team is working towards common goals with the same positive work ethic. The team culture values can also be described as a code of conduct or business ethics which determines the expectations of acceptable behaviour and underpins the core values of the organisation.

Business ethics are the moral principles that govern an organisation to ensure corporate responsibility, quality assurance and customer satisfaction. When combined, a code of conduct and business ethics defines the morality of an organisation and sets the standard for the behaviour and work ethic of its members. It should incorporate that all members of the organisation will be given equal opportunities and treated equally and fairly regardless of any differences.

A code of conduct and business ethics policy will normally be a written document that can be easily accessed by all members of the organisation. It should form part of the induction process for all new employees and be used for existing employees for refresher training at regular intervals.

A code of conduct and business ethics policy must be enforced consistently if it is to have any effect or if it is going to be valued by those it governs. If employees that breach the code in any way are not dealt with accordingly, other employees will have no faith in the system and may lead to increased unethical behaviour.

#### Determining team culture values

When deciding upon what the team culture values will be, the team must be consulted and be an integral part of establishing and agreeing on the values. If the team culture values are not their own, based on their experiences in the workplace, and do not reflect what they believe to be important, they will have a negative and demotivating impact on the workforce. The person tasked with establishing and promoting the values should be someone in authority but in touch with the project team at ground level whom the team respects and should embody all of the core values important to the team.

Team culture values will vary according to each organisation, but general values include:

* accountability and responsibility for own actions
* integrity
* respect
* maintaining a healthy work-life balance
* collaboration and empowerment
* quality
* community, embracing diversity, equal opportunities for all
* innovation, continuous improvement, efficiency
* team is valued by management.

|  |  |
| --- | --- |
| Self-check questions icon | Practice activity |

#### Activity 3.1: Team members responsibilities

The activity will provide you with an opportunity to take action to ensure project team members are clear about their responsibilities and the project requirements.

1. Explain what an organisational chart is and how it can help you to ensure project team members know their responsibilities.

2. Name two other methods you could use to ensure team members are clear about their responsibilities

## Provide support for project team members

By the end of this chapter the learner should be able to:

* Name three different ways to support a team and describe one of these in detail.

### Supporting team members

Especially with regard to specific needs, to ensure that the quality of the expected outcomes of the project and documented timelines are met, you will need to provide individualised support for project team members to ensure high-quality outcomes and timelines are met.

Support may include:

* Identifying strengths and weaknesses of individual team members/monitoring progress
* Providing additional training
* Resolving conflict.

### Identifying strengths and weaknesses and monitoring progress

Performance reviews and self-assessments are a good way of identifying the strengths and weaknesses of individuals.

Self-assessment is often used as part of performance feedback, including 360 – this is a formal review of performance and can involve both a self-assessment and a manager’s or trainer’s opinion on your performance.

To a certain extent, a discussion of the results of a self-assessment with trainer or assessor can be used to check whether they agree with you, but it can also help to guide you on how to improve or make the most of your skills and knowledge. Constructive feedback both positive and negative is given to the employee/learner to motivate them and improve their work. Some organisations have a rating system on a scale, e.g. 1-10 and a list of responsibilities, traits, and goals and then score the employee on those.

One way to tackle performance-related issues is to encourage team members to participate and feel like a group working together to reach their end goal. You should try to encourage team members to identify ways to improve.

You can do this by providing opportunities for discussion and feedback through:

* Meetings – involve a group of people who come together to discuss their progress, solve issues and present information
* One-to-one sessions – involve two people conversing about elements of work one in a more senior role than the other giving guidance and advice
* Drop-in sessions – involve one or more people who are seeking support, advice, a quick word with a manager (there is usually a set time for drop-in sessions, e.g. a manager will set 30 minutes aside every Tuesday to answer questions and discuss issues)
* Brainstorming sessions – is a creative process involving a group of people who come together to share their ideas and solutions to problems
* Suggestion boxes – can provide an opportunity for staff to anonymously confront problems or issues.

### Training needs

To plan training, you should first develop an evaluation of your team members’ strengths and weaknesses. You should ascertain any gaps in their skills or knowledge that could be rectified by additional training.

You should identify, plan and implement ongoing development and training of project team members so that you can support personnel and project performance. Identifying areas that personnel need additional help with and having ongoing support in place will help improve project performance.

Types of training include:

* action learning sets
* coaching and mentoring
* performance feedback
* team building
* on-the-job training
* external training
* self-directed learning.

You may be able to give the individual(s) concerned a choice of development opportunities so that they can decide which best suits them. Alternatively, it may be necessary for you to choose the best method to suit the time and budget of the organisation.

#### Action learning sets

An action learning set is a small group of peers who come together with a learning facilitator to discuss work issues. The group will meet a few times a year and get a chance to report on various issues they are dealing with. After reporting the other members will get a chance to ask questions to open-up the problem or situation and help to analyse it. Each member then gets the chance to discuss what they have learned from the session. The members take what they have learned and apply it to the workplace.

#### Coaching and mentoring

Coaching and mentoring can overlap. Coaching involves creating an optimum environment for learners to perform to the best of their abilities. It allows the learner to dissect a situation and discover their own solutions. A coach does not necessarily have to be in a similar role to that of the learner, though may well be. Mentoring involves regular contact with a person in a similar or higher position. The learner will be able to draw on the experience of the mentor to help them handle issues that arise in the workplace.

#### Performance feedback

Performance feedback has a more formal approach. It involves a regular ongoing assessment of an employee’s performance by a manager or supervisor. Constructive feedback both positive and negative is given to the employee to motivate them and improve their work. Some organisations have a rating system on a scale, e.g. 1-10 and a list of responsibilities, traits, and goals and then score the employee on those.

#### Team building and group activities

Team building and group activities aim to help team members develop a skill, e.g. problem-solving skills, or get to know each other, become more motivated or adaptable. Team building activities can be performed internally or externally and can be as simple small group exercises held in a conference room or more adventurous outdoor pursuits. To be most effective they should be held regularly, e.g. weekly/monthly.

#### Training

Training provides an employee with the knowledge and skills to do the job. Training can occur at different stages in employment, for example, induction training occurs when people start a job or are new to a role, refresher courses can be provided for those that need a boost, and formal qualifications can be obtained for those who are aiming for promotion.

There are various ways to train people for example:

* On-the-job training – involves learning the aspects of a job through doing the tasks related to that job
* External training – this involves an external body and can be formal with an assessment leading to a qualification
* Self-directed learning – this involves a learner studying in their own time.

### Resolving conflict

A good project manager will prevent conflicts by using effective communication strategies throughout the life of the project. The meeting schedules set out in the project plan should be adhered to, and if more communication is needed, should be amended. Project managers should encourage a two-way communications process between them and their project team to raise any issues or potential sources of conflict before they arise. This is why the initiation, planning, and monitoring and controlling stages are so crucial to the smooth running of the project.

Involving the project team and stakeholders in relevant consultation processes such as open forums, questionnaires, and meetings allow them to air their concerns and for you to address potential conflicts before they arise. It also makes the project team feel valued and take ownership of the project which results in a more cohesive and productive workforce.

Constant assessment allows sources of potential conflict to be addressed and resolved before it becomes a huge issue that may delay the project, or worse, compromise completion.

Where conflict is unavoidable, it must be addressed swiftly and thoroughly to ensure the issues are resolved and for the project to continue. There are a number of steps in conflict resolution models which are generally accepted as the norm and adopted by organisations as their resolution of conflict procedures. The number of steps you have to take to resolve the disagreement will depend upon the needs and expectations of the disgruntled party. Some conflicts are easier to resolve than others; submissive personalities will usually be easier to please than dominant individuals.

Steps in a conflict resolution model include:

* negotiation
* mediation
* arbitration
* litigation

Negotiation

You have already covered negotiation in a previous chapter, and this is the lowest level of conflict resolution. It is a voluntary process in which proposals are passed back and forth from each party until an agreement is reached. Both parties can negotiate for themselves or can involve a third party to perform the negotiations for them, but ultimately each party makes its own decisions in the process.

Negotiations can be:

* quick and inexpensive
* informal and unstructured
* private and confidential
* resolved informally

#### Mediation

If negotiations fail, mediation is the next step. Again, this is a voluntary process that all parties agree to enter to try and resolve the dispute informally without having to involve legal or trade union action. A third, impartial party is invited to act as the mediator and chair the informal meeting between the parties involved.

While the meeting is informal it does run to a set format; the mediator will explain the situation at the beginning of the meeting and lay down the ground rules to which party must abide, such as “do not talk when another party is talking”. Each party is given the opportunity to give their version of the dispute and the reasons for the conflict. After each party has listened to the other, the idea is that they resolve the dispute together by suggestions solutions to the problem.

When mediation works, many creative and innovative solutions are found that actually strengthen the relationship between the parties involved. Mediation can be performed by a member of the project team, the project management team or if necessary, a lawyer. All mediation meetings must record minutes, the agreed solutions documented and signed by all parties involved.

Mediation:

* promotes communication and cooperation
* allows disputes to be proactively resolved by the parties involved
* can eliminate hostility and preserve relationships
* avoids time and expense of going through legal proceedings
* may create an even more acceptable and innovative solution than that originally proposed
* is voluntary, informal and flexible

#### Arbitration

If negotiation and mediation fail to secure resolution, the matter will require a more formal resolution. Arbitration is the process of submitting the case to an impartial third party, the arbitrator, to hear both sides of the dispute in order for a decision to be made. (It is an out of court method of resolving legal and trade union disputes). Arbitration:

* can be voluntary
* is private
* is conducted as a hearing in which all parties present evidence to the arbitrator
* is usually quicker and less expensive than going to court
* allows the parties involved to select an arbitrator with expert knowledge of their area of dispute
* results in a decision made by the arbitrator that is final and can be enforced in court

#### Litigation

If the dispute becomes so serious and all steps taken to resolve the dispute have failed, you may have to go to court. A trial will be held, during which both parties and their respective lawyers will present evidence to a judge who will then make a decision based upon applicable legislation.

Litigation is:

* involuntary – all parties must present evidence
* a formal and structured process
* public – all court proceedings and records are open to the public
* based upon relevant legislation
* final and binding
* expensive and can be a lengthy process
* open to appeal.

The conflict should not usually become so serious that arbitration and litigation are necessary, as most conflict can be resolved informally and internally with negotiation and mediation.

|  |  |
| --- | --- |
| Self-check questions icon | Practice activity |

#### Activity 3.2: Support to project team

This activity will provide you with an opportunity to identify how to provide support for project team members, especially about specific needs, to ensure that the quality of the expected outcomes of the project and documented timelines are met.

Read the question carefully and provide your answer in the space below (estimated time 20 minutes).

1. Name three different ways you can support a team and describe one of these in detail.

## Establish and maintain required recordkeeping systems throughout the project

By the end of this chapter the learner should be able to:

* Name four different reasons why records need to be kept and maintained.
* Give two examples of system requirements.
* Explain how to determine the scale of the record-keeping system required.

### Recordkeeping systems

A recording system can be either manual or electronic but should be simple, easy to understand and use. Managing and monitoring business or records systems involves determining requirements or modifications. This can be achieved by researching core business, supporting activities, resources and business and social context. Research can be done through observing and consultation with head office, local management, principals and staff.

There are many reasons why records are produced and updated during a project. Not only is it imperative for the general communication between team members, clients, and stakeholders, but also for administrative duties, planning and resource obtainment.

Records need to be maintained to ensure the most recent information is available to everyone working on a project.

Also, records need to be maintained to ensure:

* team has a way of communicating in general
* ease of problem identification
* evidence of contracts and agreements
* plans, schedules and budgets to use as a guide
* human resource allocation and designated authorities.

#### Core business activities

You should first think about documenting the core activities of the business. Core activities are non-routine (administrative) activities that improve customer value, provide profits and are strategic for example, customer service, designing a product or marketing activities. After identifying your organisation’s core activities, you should document them.

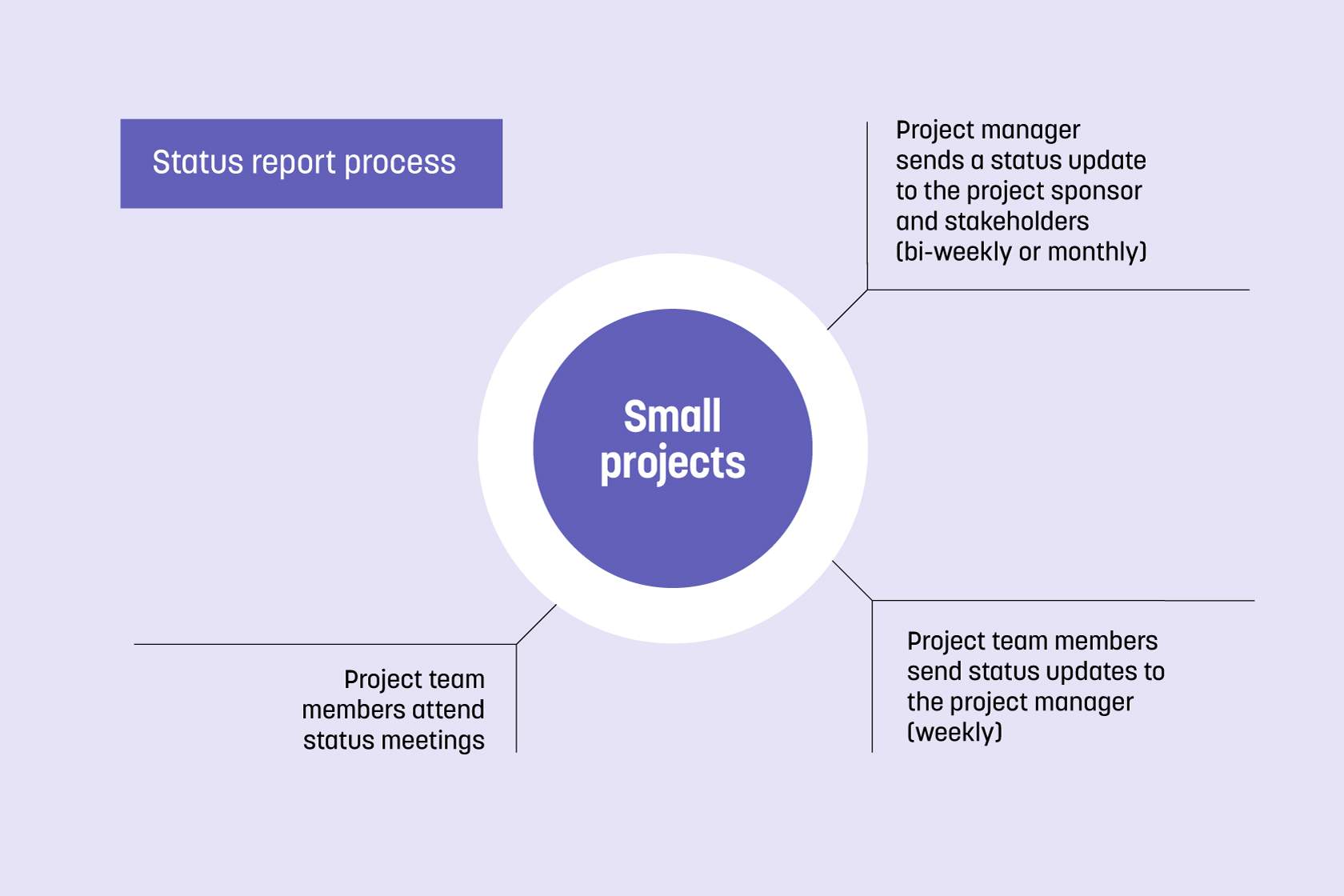
Documenting core business activities may involve identifying:

* diagrammatic representations
* formal documents
* handwritten documents
* informal communications
* online instructions or computer-based format instructions that can be updated
* paper-based manuals
* other texts.

#### The status report process

Small projects have three inputs:

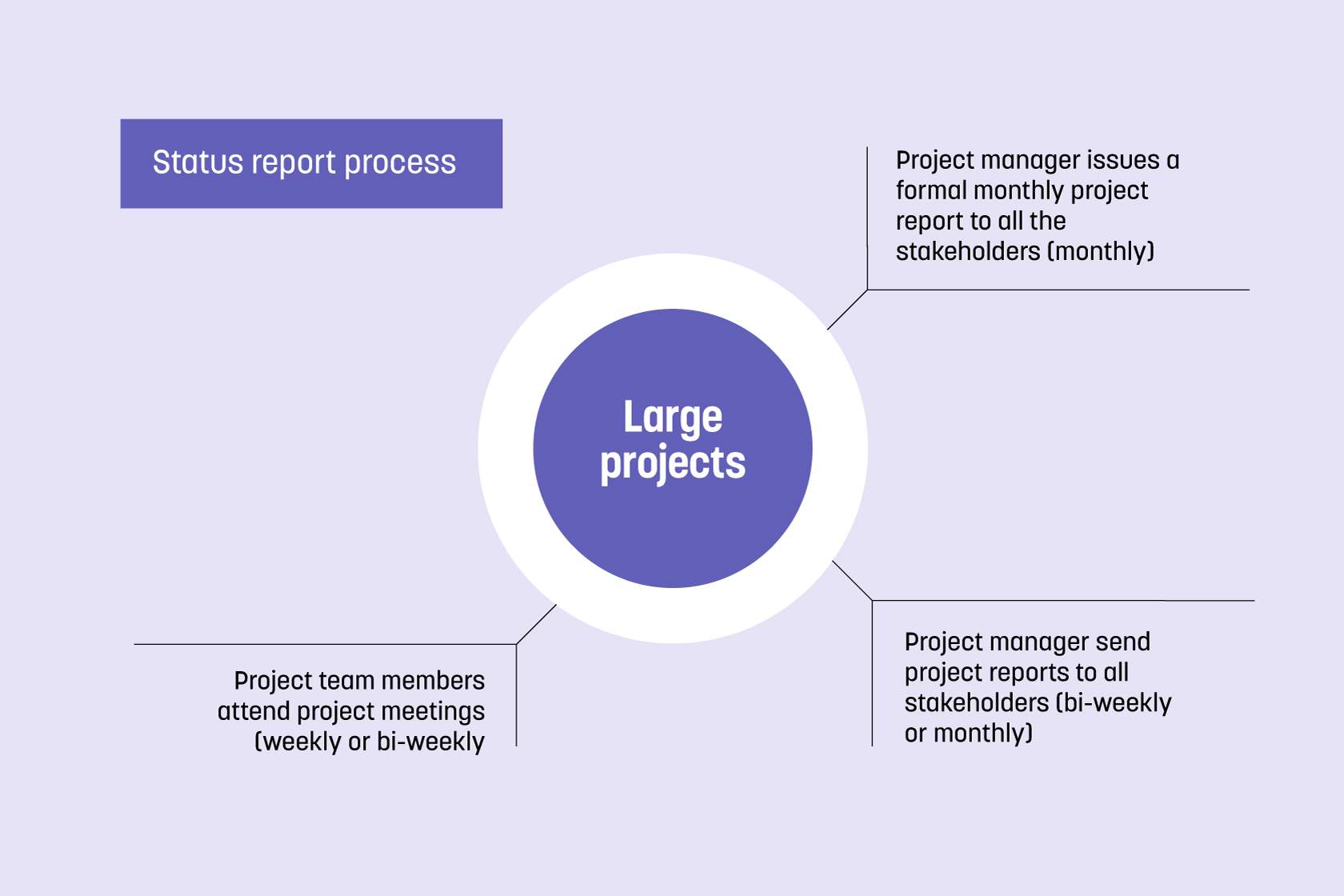
1. Project manager sends a status update to the project sponsor and stakeholders (bi-weekly or monthly).
2. Project team members send status updates to the project manager (weekly).
3. Project team members attend status meetings.



© TAFE NSW 2019 Status report process small projects

Large projects also have three inputs:

1. Project manager issues a formal monthly project report to all the stakeholders (monthly).
2. Project manager sends project reports to all stakeholder (bi-weekly or monthly).
3. Project team members attend project meetings (weekly or bi-weekly).



© TAFE NSW 2019 Status report process large projects

#### System requirements

You will also need to think about the system requirements. System requirements will differ between organisations and will have to meet certain standards and provide certain functions.

Some example of requirements:

* Records should be retrievable
* The integrity of the record should be able to be preserved
* Records disposal should only occur when authorised
* Records that need to be held long-term can be archived.

You will need to select an appropriate scale and number of business or record systems using information regarding the scale and nature of business operations at the organisation. To determine the scale, you should first consider what data needs to be stored and how, e.g. electronic or paper-based. How information is stored depends on upon the purpose of the task; long-term storage may need to be in a secure location, either in the office, storage facilities, or on the computer, whereas short-term storage tasks will vary from task to task.

* **Established procedure:** this may be implemented by organisational stipulation or through how your workplace works.
* **Organisational stipulation** will likely be company-wide and is in place to ensure that legal obligations are met and that a uniform system is used across the company.
* **Workplaces** may have their own system that revolves around the space, layout, and staffing of the office, for example:
* the use of filing cabinets
* whether all staff have access to the same files on the computer
* whether staff have pigeonholes or trays
* whether there is a member of staff employed to manage the information system or whether everyone does their own work
* security restrictions:
  + - who has access to the computer?
    - who has access to the filing cabinet?
    - who has access to the office area?

### Recordkeeping tasks

There are many possible record-keeping responsibilities which may include:

* storing, indexing and classifying records
* developing filing systems and ensuring they meet the required organisational and legal standards
* create schedules for retaining and disposing of records
* managing paper and electronic-based information
* maintaining and reviewing records systems
* identifying record resources
* advising colleagues and other management on recordkeeping issues including areas of controversy or complexity such as those involving the freedom of information act and other legislation
* setting up a policy framework to help guide staff
* ensure staff comply with regulations and legislation when recordkeeping
* managing the transition from paper to electronic systems
* regulating access to information
* resolving information management problems
* helping with internal and external queries
* manage and monitor budgets and resources
* organise and take part in training and supervising records staff.

### Maintaining, disposing and updating requirements

The first step here is to determine your requirements:

* What processes do you need to maintain and dispose of records?
* Do you need an I.T. department, for example, and will this be onsite or offsite?
* Do you need storage space and does this require human resources, e.g. for security, shredding, deleting files?
* Will you need to buy or renew equipment, e.g. computers, printers, shredders, etc?
* How often will the system be updated?

#### Record continuum theory

The record continuum is compared to a life-cycle of records. This lifecycle contains the creation of a record, use of a record and then either authorised disposal of a record or further storage and administration of a record (see the below diagram).

All records generated during the project should be kept for future reference if necessary. All required information should be filled in and all documents checked for accuracy. Decide which records need to be kept and collate all the documentation in chronological order ensuring you create a contents page that documents the author, the date and the version history number of the document.

### Maintain and update records

Maintaining and updating records against project deliverables will involve documenting any changes or additions to your baselines. Intervals will vary on the type of plan and your organisation’s requirements. If you are using project software such as Microsoft Projects, then you should access this and alter it accordingly.

You may need to update the following areas:

* **Time worked**—can be collected through timesheets, e.g. at the end of each week. The project manager should estimate the time worked each week and compare this to the actual time worked each week to see if the schedule is running as planned
* **Costs**—can change over time for example:
* changes to materials or the cost of materials, e.g. if there is an offer
* changes to contractors, e.g. using different companies, switching suppliers, etc.
* changes to pay of staff, e.g. if someone is promoted.
* **Scope**—changes to scope can be complex and require approval, so any changes should be identified and implemented as quickly as possible. You may have contingency scope plans that you can use for reference.

You should have in place a quality assurance policy that instructs you in how to keep records updated in an accurate and timely way.

Generally, records are held in electronic systems that deliver a report based on the inputted information. These may be stored in a computer-based file or folder. A computer directory is a computer-based filing system that is organised into files and folders on a computer. You may have several files and folders in use on your computer, and you should ensure that you manage these appropriately so that the information can be stored for ease of access again.

You may have specific guidelines regarding titles or codes for naming files and folders. You will be given specific procedures in order to manage this system correctly and according to your organisational requirements.

To manage this filing system, you may need to:

* Create new folders
* Copy folders or files within folders and move to other locations
* Change the name of a file or folder
* Delete files and folders.

To be given the above options you should right-click on the folder or file with your mouse to bring up the drop-down list of options.

Five main phases of managing a project

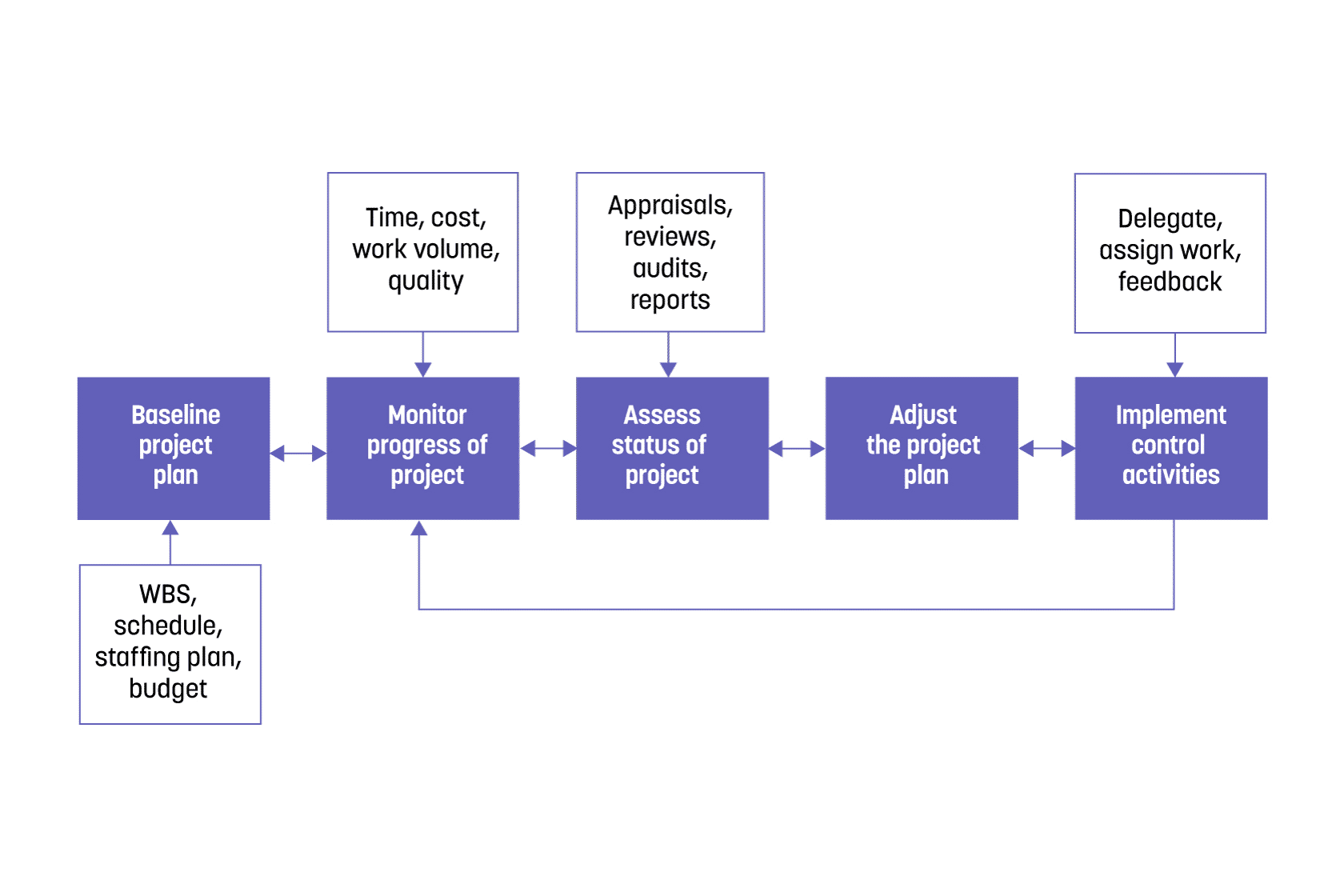
1. Baseline project plan.
2. Monitor progress of the project.
3. Assess the status of the project.
4. Adjust the project plan.
5. Implement control activities.

Each phase feeds into and from the adjacent phase. The whole process is a cycle, where once you get to **Implement** control activities you feedback to **Monitor** progress of a project.

Some of the phases have extra information fed into them, as follows:

* WBS, schedule, staffing plan, and budget feeds into the baseline project plan.
* Time, cost, work volume, and quality feeds into monitor progress of the project.
* Appraisals, reviews, audits, and reports feeds into assess the status of the project.
* Delegate, assign work, and feedback feeds into implement control activities.

The following diagram illustrates how records are maintained throughout a project, according to organisational requirements.



© TAFE NSW 2019 Maintainance of records

|  |  |
| --- | --- |
| Self-check questions icon | Practice activity |

#### Activity 3.3: Maintain recordkeeping systems

This activity is to provide you with an opportunity to identify how to establish and maintain the required recordkeeping systems throughout the project.

Read the question carefully and provide your answer in the space below (estimated time 30 minutes).

1. Name four different reasons why records need to be kept and maintained.
2. When establishing a recordkeeping system one of the first things to think about is the system requirements. Give two examples of system requirements.
3. How can you determine the scale of the recordkeeping system required? Explain in no more than 30 words.

## Implement and monitor plans for managing project finances, resources and quality

By the end of this chapter the learner should be able to:

* Give a brief description of how to implement and monitor a financial plan.

### Managing project finances

You will need to create a financial action plan for managing project finances.

This action plan should include:

* Your recommended action—goals you need to achieve to strengthen your finances
* The purpose of achieving the goals—what is the outcome/benefit?
* Timescales—you will need to ensure there are target dates for the goals to be completed.

You will also need to consult with financial experts or colleagues when implementing a plan to manage project finances.

Failure to account for problems in resource availability and price can mean that your project cannot be completed at all or that the budget is overspent.

**For example:** if your project involved building 500 houses, how would you cope if the supplier ran out of bricks?

* Would you be able to source the same product elsewhere?
* would this cost more? How much more?
* would you be able to wait for the bricks to come back into stock?

What if the cost of the bricks raised significantly mid-way through the project?

* Will the budget allow for the additional expenditure?
* Would it make more sense to secure the entire resource requirement before the project commences?
* Can the same product be bought elsewhere for the same or lower price?

Contingency plans can be put in place to deal with the cost or availability of resources. Without a contingency plan, the whole project could collapse if an essential resource became unavailable or considerably more expensive.

Overrunning problems can cause significant problems, regarding the business’ operation and the cost of the project.

#### In cost-management terms:

* How much will it cost to pay the staff and contractors for their additional time?
* will this attract a higher rate?
* Will you have to pay staff and contractors emergency overtime?
* How much will the business lose in takings from being closed / partially closed?
* How much will any additional resources cost?

You should identify what could possibly go wrong, estimate a cost for this and budget for it accordingly.

**For example**: if the builders from the earlier example overran on their project for building the 500 houses:

* How much will it cost to pay the staff and contractors for their additional time?
* The builders cost $25,000 a week, so four additional weeks would cost an additional $100,000.
* You could budget for an eight-week overrun, costing $200,000. Then, if the build does overrun for any reason, the money is budgeted for this, and it will not be financially ruinous for the project.
* Will you have to pay staff and contractors emergency overtime?
* The builders will charge the same rate of $25,000 a week, so the price won’t rise unless they are required to do emergency overtime in order to get the project finished quickly.
* How much will the business lose in takings from being closed / partially closed?
* Not applicable, as the houses are going to be sold to buyers and this will be the same amount whether or not the houses are finished two months later.
* How much will any additional resources cost?
* Not applicable, but you would budget for additional resources anyway in the resource budget.

### Cost-estimating methods

To implement a financial plan, you will need to calculate the costs associated with the project. There are several different ways of estimating the costs associated with a project.

These cost-estimating methods may be:

* **Allowance for contingency and risk**
* allowing additional budget space to cover contingencies. By allowing time and money to be available in the event of a problem, your planning is more flexible and more able to cope with issues
* **Cost of Quality (COQ)**
* the costs associated with maintaining the required or desired quality level of the project that you should budget for. You need to factor these costs into your cost-management plans
* bear in mind the cost of failure!
* **Expert opinion**
* experts and specialists can give you advice on costs, quantities, qualities and durations
* this can mean that your estimations are more accurate and well-informed
* **Organisational budget and cost-control policy**
* your organisation may have set or advised budgets, targets, and limits to help you with your cost-estimation process, by providing a framework and a guide
* **Organisational chart of accounts**
* the chart of accounts defines different types of expenditure the organisation has and can be used to assess the financial state of the business
* assessing the financial state of the business can help with cost-estimating because you can build your budget around the organisation’s current position
* **Parametric estimating**
* parametric estimating is a technique that uses statistics from historical data and project variables to estimate the cost and duration of projects
* **Prior project history**
* prior project histories are useful because you can use any lessons learned in your current and future projects. You can also examine previous budgets and contingencies in order to better prepare your estimations this time around
* **Reserve analysis**
* a reserve analysis is a technique that determines whether and how much reserve should be allocated to cover contingencies, regarding cost, budget and time
* **Review of organisational records**
* reviewing organisational records can allow you to identify what went wrong and what went well in previous projects
* organisational records may also be related to income, expenditure, and budgets and can assist you in cost-estimating
* **Top-down estimating**
* top-down estimating involves looking at the project as a whole and estimating the cost as one overall figure; for example, the whole cost will be $1.1 million. This method is not usually as accurate as bottom-up estimating but is advantageous in that it allows you to see the bigger picture
* **Bottom-up estimating**
* bottom-up estimating breaks the whole project up into smaller elements and components and allows you to estimate costs for each of these steps. This can be a more accurate way of estimating costs, as it allows you to look in more detail at each part of the project.

The methods you use will depend on the information you have and the nature of the project. Your organisation may make stipulations about which methods should or should not be used and may provide templates.

### Resource levelling

This is when you ensure that teams are only given work they can realistically achieve within a given deadline.

So, for example, tasks are spread out over a specific schedule, so the team is not overloaded with work all at once. Also, tasks can be split into phases and responsibilities delegated, to spread the workload across the team.

You can use programs like Microsoft Office Project to automatically do this for you.

Microsoft Office Project has features to help you distribute work, including:

* task Id
* scheduling dates
* available slack
* task priority
* task dependencies
* task constraints.

What the program does is split tasks or delay them to a later date; it will not alter their information or who/what resources are assigned to. These tasks could be done manually, without using Microsoft Project, but you will need to consider the time it will take versus the cost of implementing an automated system. Don't over-allocate resources; it will mean the assigned team cannot complete the given tasks by deadlines.

Be aware that Microsoft project will not account for the availability of resources when assignment tasks, but just the requirements for it. Therefore, you will need to keep an eye on over-allocations and resolve them accordingly.

### Managing project quality

Successful quality management throughout a project ensures that the end product and outcome meets or exceeds the expectations and needs of the clients and stakeholders which are determined during the initiation and planning stages of the project. Quality management is an ongoing process and may result in changes being made to a number of factors within the project such as timescale and allocated resources, both of which may impact on all of the other eight project functions.

Effective quality project management will include the following:

* **Definition of quality**—the definition of expected quality will be determined by the stakeholders at the beginning of the project and will refer to the end result ad the deliverables, and also the processes and procedures adopted during the project.
* **Quality characteristics**—the deliverables, technology and equipment used to produce the deliverables, and the processes and procedures used during the project will be measured against certain characteristics such as:
* performance
* suitability
* consistency
* reliability
* functionality
* **Quality plan**—a clear quality management plan should be set out that determines all the activities required to meet the determined quality standards including:
* quality definitions
* management responsibility
* design and document control procedures
* purchasing requirements
* procedures for inspection testing, non-conformance, and corrective actions
* how quality records are kept and maintained
* quality assurance – schedule for quality audits and procedures for reporting back to stakeholders
* training requirements
* **Quality improvement** (or continuous improvement) – this is the process of constantly evaluating the quality of a product, system, process, procedure or material to find ways to make it better and more efficient. It is the responsibility of every member of the project team to strive to improve the quality of every aspect of their work.
* **Quality control**—the evaluation of the quality of the end result regarding the expectations of the stakeholders. If the quality expected is not met the end result may be rejected and more work will need to be undertaken to meet the requirements. This is why continuous improvement and quality audits are important throughout the execution of the project.
* **Cost of quality**—this relates to the methods and procedures used to produce deliverable to the expected level of quality and also the costs of failing to meet expectations and any waste in the course of the project.

Quality assurance—refers to the process of monitoring quality throughout the duration of the project to ensure that it is maintained. Quality assurance allows any issues and problems to be detected early so that they can be resolved promptly and therefore minimise impact to the rest of the project.

Quality assurance may include:

* Systematic review of the project management process to ensure compliance with organisational policy and guidelines.
* Project finalisation process to capture lessons learned and to enable continuous improvement.

Quality assurance audits may include:

* conformance to plan
* conformance to standards
* governance and decision making
* independence and valid processes
* maintenance of project records.

|  |  |
| --- | --- |
| Self-check questions icon | Practice activity |

#### Activity 3.4: Implement and monitor plans

This activity will provide you with an opportunity to identify how to implement and monitor plans for managing project finances, resources, and quality.

Read the question carefully and provide your answer in the space below (estimated time 20 minutes). Your answer should be a maximum of 100 words.

1. Give a brief description of how you would implement and monitor a financial plan.

## Complete and forward project reports as required to stakeholders

By the end of this chapter the learner should be able to:

* Outline how to complete different aspects of completing a project report so it is ready to be forwarded to stakeholders.

### Complete and forward project reports

You will need to complete and forward project reports to stakeholders who need to be informed. You might need to complete regular reports – it will depend on what you have decided. Regular reports can help to keep stakeholders informed about the status of the project. A final report is also needed at the end of the project.

When creating reports:

* be honest and objective with the data
* note success for use in other projects
* use hindsight to document potential problems to look for in other projects
* avoid blame and focus on the learning process and future improvements
* try to create an open-minded learning culture, so people are willing to share
* be aware of obstacles to reviews, e.g. resistance from team members, dishonesty, subjectivity
* look at positives and negatives to learn from
* make recommendations for applying successful points of the project.

By listening to the opinions of your team and analysing these documents, you can decide on the important lessons to learn from the project.

A report format includes:

* Overview or summary
* List of tasks (possibly a prioritised list)
* Financial reports
* Progress report, e.g. tasks completed versus to do
* Workload – how much work is assigned to a task, or on a regular basis, e.g. daily or per resource?

#### What tools can you use to help?

* Presentations
* Flowcharts
* Diagrams
* Bar charts
* Statistical data.

### Preparing and producing reports

When preparing and producing a report, there are some things you have to keep in mind.

#### Initial planning:

* make sure you understand the topic of the report
* purpose of the report – persuade, inform, argue, evaluate, advise
* audience of the report
* format required.

If you are given instructions and guidelines to follow, make sure you do.

#### Planning and researching:

* Determine the key aspects of the report to understand what information is required
* Keep the topic in mind when researching and reject any information that is irrelevant
* Keep records of sources used.

#### Report structure:

* Determine the format of the report—is there a specific template used by your organisation?
* Determine the content. Does the report require any of the following:
* title page
* contents page
* terms of reference
* introduction
* main body
* supporting evidence
* summary/results
* evaluation
* conclusion
* recommendations
* glossary/references/bibliography/appendices
* Language style—is the tone of the report formal or informal?

#### Proofreading and checking the finished document for:

* general layout and style
* coherence of the text
* grammar, spelling and punctuation
* whether it has met the brief?

### Writing reports

Ensure documentation is written in the active voice rather than the passive, as this gets the message across more directly and helps with concise writing.

Documents should:

* be concise
* be objective
* appropriate in language (no slang, unless recording direct speech)
* include only necessary information.

Being concise means including the right amount of information – not too little or too much. You need to get to the point in as few words as possible; use appropriate words, sentence structures and avoid frivolous information that is not relevant.

Being objective involves only including the facts in the documentation and no opinions or bias affecting what is recording. Subjective information is based on assumptions and feelings and will not accurately portray the incident.

Ensure documentation is dated so that it can be filed chronologically and used in accordance with other documents relative to the same time period.

* What are your organisation's requirements for documentation?
* What things need to be documented?
* Are there standard reports for performance against KPIs?
* Do certain visual representations (graphs, charts, etc.) need to be included?

|  |  |
| --- | --- |
| Self-check questions icon | Practice activity |

#### Activity 3.5: Project reports

Activity will provide you with an opportunity to identify how to complete and forward project reports as required by stakeholders.

Read the question carefully and provide your answer in the space below (estimated time 20 minutes).

1. Outline how you should complete each of the following aspects of completing a project report, so it is ready to be forwarded to stakeholders:

* Planning and researching
* Report structure
* Proofreading and checking the finished document.

## Undertake risk management as required to ensure project outcomes are met

By the end of this chapter the learner should be able to:

* Give three examples of risk review processes
* Identify the elements/stages involved in monitoring and controlling project risks.

### Risk management

To manage risks, you will need to review risks regularly to maintain the currency of the risk plan and ensure project outcomes are met.

Risk review processes may include:

* ad hoc due to emergency events
* gateway or stage transition reviews
* ongoing through team member assigned responsibility
* regular risk discussions at project meetings
* scheduled formal reviews.

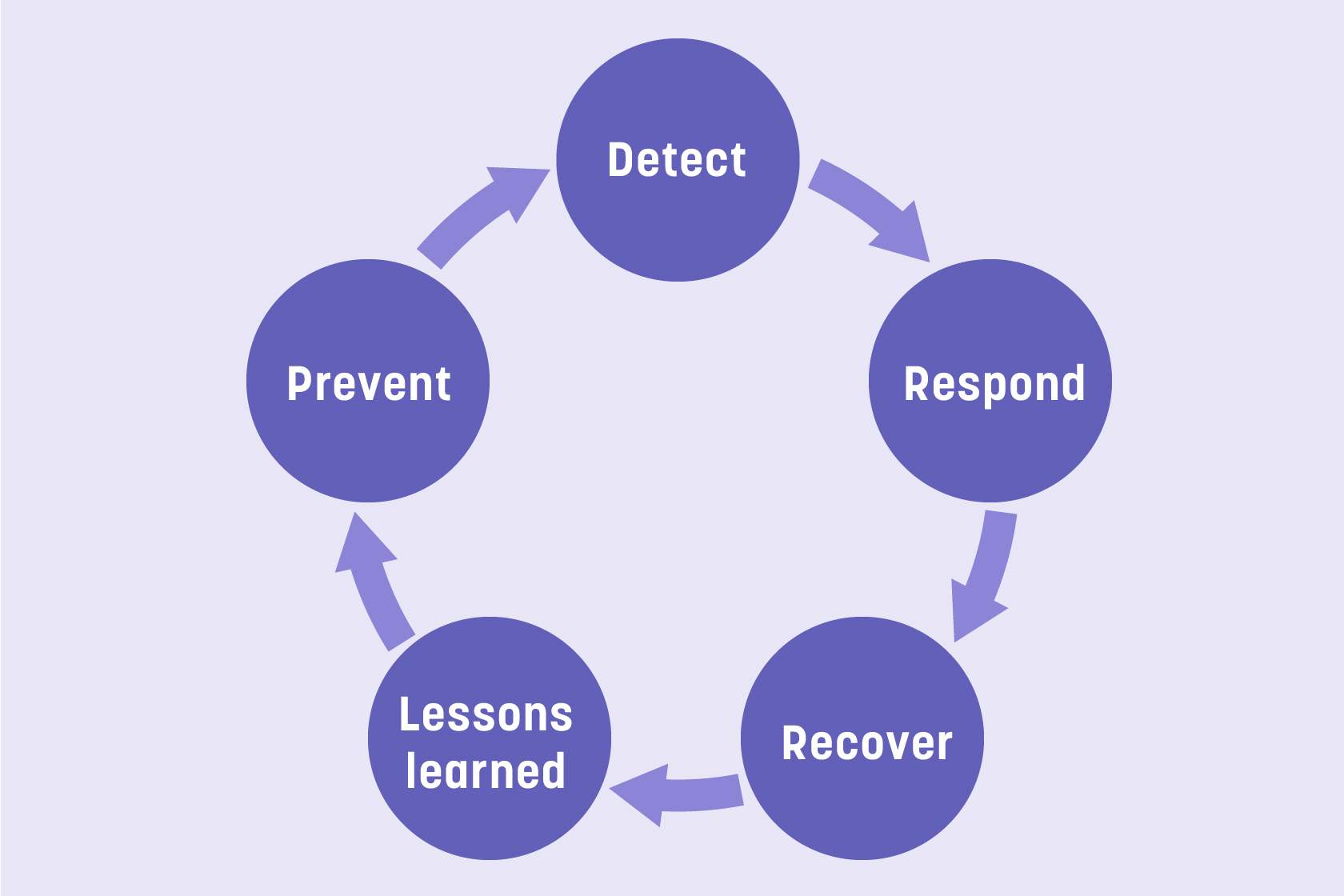
The process can either be informal, or a formal, structured process – which of these it is will depend on the size and complexity of your project.

A structured approach would include review systems, checklists and measurement tests to ensure the currency of risk plans.

Further risk review processes may include:

* risk control audits
* risk insurance review
* contract reviews (internal and external)
* review of internal processes
* incident debriefs
* test/trial events.

Monitoring and controlling project risks should be a cyclical process and should continuously occur.



© TAFE NSW 2019 Monitoring and controlling project risks

|  |  |
| --- | --- |
| Self-check questions icon | Practice activity |

#### Activity 3.6: Risk management

Will provide you with an opportunity to identify how to undertake risk management as required to ensure project outcomes are met.

1. To manage risks, you will need to review risks regularly to maintain the currency of the risk plan and ensure project outcomes are met. Give three examples of risk review processes.
2. Monitoring and controlling project risks should be a cyclical process and should continuously occur. What stages/elements are involved?

## Achieve project deliverables

By the end of this chapter the learner should be able to:

* Provide a definition of a project deliverable.
* Identify how to check deliverables have been achieved.

### Achieving project deliverables

Before you can finalise the project, including obtaining sign-offs for the concluding of the project, you will need to demonstrate you have achieved the project deliverables. Project deliverables will obviously vary depending on the industry you work in and the specific project.

They are the building blocks of your overall project and are the tangible, measurable and specific results of the process of your project. Deliverables are the reason projects are created, and they may contain some smaller deliverables. They are the products and/or services you give to customers, clients and employees and they normally have a date for when they are due.

Deliverables can sometimes be called outputs. The output is something that a project has delivered and should be easily measurable, for example, a content management system, a redesigned website, a product, etc.

Project deliverables may include:

* definable product, service or document
* discrete components of the overall project outputs
* specified products of the project
* time, quality and cost.

You may have a checklist of deliverables that makes it easy for you to see if you have provided them. You can now look down the list and check that you have achieved each deliverable. You may also consult with different people in the project team and stakeholders to determine whether the deliverables have been met.

|  |  |
| --- | --- |
| Self-check questions icon | Practice activity |

#### Activity 3.7: Project deliverables

This activity will provide you with an opportunity to identify how to achieve project deliverables.

1. Provide a definition, around one or two paragraphs long, of a project deliverable, and include two different examples.
2. How can you check you have achieved deliverables? Explain in no more than 50 words.

Topic 4

**Finalise project**

# Topic 4: Finalise project

## Overview

In this topic you will learn about:

4.1. Complete financial record keeping associated with project and check for accuracy

4.2. Ensure transition of staff involved in project to new roles or reassignment to previous roles

4.3. Complete project documentation and obtain necessary sign-offs for concluding project

The activities throughout this resource will assist you in your learning. These activities do not form a part of your final assessment however they will contribute to your understanding of the topic area.

## Complete financial record keeping associated with project and check for accuracy

By the end of this chapter the learner should be able to:

* Identify examples of specific records they need to keep relating to the financial aspects of a project.

### Project finalisation activities

You are reaching the completion of your project, and you now need to complete the final activities in preparation for the handover to the client.

Project finalisation activities may include:

* completing financial transactions
* consolidating and storing project data
* documenting outstanding project issues
* obtaining or providing certifications
* preparing final project reports
* updating organisation knowledge management.

All financial transactions need to be completed and recorded appropriately and in compliance with legal and accounting requirements and also for auditing purposes. The project cannot be handed over to the client with any outstanding monies owed. Financial transactions may include payments to suppliers, wages for the project team; rent for premises, utility bills and many others specific to your project.

### Legal requirements

According to the [Australian Taxation Office](https://www.ato.gov.au/Business/) *(https://www.ato.gov.au/Business/)* record keeping requirements, personal and business financial records must be kept for five years.

[The Australian Securities & Investments Commission (ASIC)](https://asic.gov.au/for-business/running-a-company/company-officeholder-duties/your-company-and-the-law/) *(https://asic.gov.au/for-business/running-a-company/company-officeholder-duties/your-company-and-the-law/)* requires companies to hold a copy of any relevant financial records for at least seven years after they were created.

You should look into details of your specific industry and state requirements but should at least meet basic legal requirements such as:

* **Cash book or financial accounting program** that records cash receipts and cash payments.
* **Bank accounts** including cheque books, deposit books, and bank statements.
* **Employment records** detailing hours of work, overtime, remuneration or other benefits, leave, superannuation benefits, termination of employment, type of employment, personal details of workers, employee personal contact and employment details.
* **Occupational training records** for both you and employees to comply with work, health and safety laws, including evacuation and emergency training attendance.
* **Sales records** invoice books, receipt books, cash register tapes, credit card documentation, credit notes for goods returned and a record of goods used by the business owner personally.
* **Proof of purchases** such as cheque butts (larger purchases), petty cash system (smaller cash purchases), receipts, credit card statements, invoices and any other documents relating to purchases, including copies of agreements or leases.
* **Work, health and safety (WHS) records**, including workplace incidents, risk registers and management plans, names of key WHS people such as WHS representatives, Trained Safety Advisors (TSA) and first aid attendants, chemical storage records, first aid incident registers, workplace assessments and Material Safety Data Sheets (MSDS).

### Financial obligations

Dependent on the scale of your project you may have financial obligations to finalise both internally and externally.

Internal financial obligations—may include the final accounting for the overall spend of the project, broken down into the following project areas:

* **Cost management plan**—reconciliation of planned expenditure and actual expenditure.
* **Work breakdown structure**—how did the actual spend compare to the budgets allocated to each component of the WBS?
* **Change and risk management**—how did changes to the project affect budgets?
* **Procurement records and accounts** need to be finalised and recorded appropriately.
* **Payroll** needs to be finalised and records stored/handed over appropriately.
* **Vendors** should be given their final payments and accounts update accordingly; there should be no outstanding invoices.

External financial obligations relate to outside borrowing; funds that have been lent by sources other than the stakeholders and investors, such as bank loans or contracts for services (utilities for example). It is important to finalise these external financial obligations as, if the obligation is not honoured or paid in full, it could result in court action and the seizure of assets of the project and/or the organisation.

|  |  |
| --- | --- |
| Self-check questions icon | Practice activity |

#### Activity 4.1: Financial recordkeeping

This activity will provide you with an opportunity to identify how to complete financial recordkeeping associated with a project and check for accuracy.

1. What specific records do you need to keep relating to the financial aspects of a project? Identify three examples.

## Ensure transition of staff involved in project to new roles or reassignment to previous roles

By the end of this chapter the learner should be able to:

* Explain how they can help to ease the transition of staff involved in a project to new roles or reassignment to previous roles.

### Change management

If not handled appropriately, change can be met with resistance from staff. To manage the transition, you will have to plan a tactical approach to encourage a positive experience and reaction to change.

Consulting with staff/stakeholders can help to assess the impact of making changes. There may be advantages and disadvantages to the changes. These should be discussed with the relevant stakeholders.

It is important to keep all stakeholders informed of changes and how it will affect them and the everyday operations of the business.

You may need to reassure staff and provide them with additional training. Refresher courses can be provided for those that need a boost, but additional training will be needed for any changes to operations.

You should identify, plan and implement ongoing development and training of team members so that you can support personnel and organisational performance. Identifying areas that personnel need additional help with and having ongoing support in place will help improve performance.

Think about making changes gradually; once employees have become accustomed to one or two changes, you can introduce more. This ensures a smoother transition into the whole process and allows time to tackle any early day problems.

### Staff transitioning

The end of a project is signified by having completed all stages of the project, and the outputs have been acknowledged by the project director or sponsor. Disbanding a team occurs at the end of a project and is similar to de-briefing. It is sometimes overlooked but needs consideration because it can help you to learn from the project.

Disbanding helps you to:

* recognise the effort and success of team members
* learn from what you have achieved
* become a better team and better at working in teams
* look towards the future and other projects.

#### Procedures for disbanding teams

You may have organisational policies and procedures to follow, and you should refer to these guidelines as organisational procedures will vary. The project manager, sponsor or steering committee may have a responsibility to disband the team; you should check whose role this is.

Procedures may include:

* how to decide who to retain
* the process for retaining workers
* reassigning staff
* how to tackle the financial ends of a project
* the structure of the formal conclusion.

It can be difficult to disband teams, especially if some workers are retained and not others.

#### Retaining people for future work

Teams who are productive and work well together should be retained where possible and used for other projects. These types of teams that reflect the culture of the organisation can also help to set an example for others and can help teach the qualities that are most valued at the organisation.

You can also learn from the teams that work well and analyse why that might be. You should look at how teams communicate and collaborate on projects. What attitudes do team members have? They may be results-driven, for example, empathetic, can handle conflict particularly well, etc.

|  |  |
| --- | --- |
| Self-check questions icon | Practice activity |

#### Activity 4.2: Staff transition

We will provide you with an opportunity to identify how to ease the transition of staff involved in a project to new roles or reassignment to previous roles.

1. How can you help to ease the transition of staff involved in a project to new roles or reassignment to previous roles?

Present your answer in 100 words, and identify at least two different methods.

## Complete project documentation and obtain necessary sign-offs for concluding project

By the end of this chapter the learner should be able to:

* Complete a piece of documentation for a project.

### Completing documentation

All aspects and requirements in each stage must be completed, and usually signed off by a delegated authority before the project can progress to the next stage.

What documentation needs to be completed by the conclusion of the project will depend on the size of your project. You may not need to include everything from the following list if you are conducting a small project.

Documentation which needs to be completed may include:

* project brief
* issue list
* project schedule
* project plan
* deployment plan
* technical specification
* quality assessment plan
* change log
* communications plan.

The specific key requirements for stage completion within your project will be determined by client expectations and the project objectives. These will vary the most from one project to another in the execution and controlling stages as project activity is unique to each project.

Generic key requirements for the completion of the closing stage are:

* Producing a closing report that includes:
* sign off
* budget analysis
* schedule analysis
* releasing project staff
* lessons learned from the project
* overall outcome of the project
* Redistribution of resources and/or equipment used in or leftover from the project.
* Completing any relevant administrative work for the project.
* Recording any next steps for the next or future projects.

Logs and registers act as tools to record elements of a project. They may be necessary as part of an auditing process and make it easy for both internal and external audits to be taken. There are many different logs and registers used in projects.

Project logs and registers may include:

* change log
* correspondence log
* daily log
* issues log
* non-conformance log
* quality log
* risk register
* task completion log
* version control log.

These allow easy access to specific information about the project, for example, if you need to check the quality of something you can access the quality log. These logs will be accessible to everyone involved in the project and are therefore a great communication tool. Your organisation will have templates for the logs and registers which make them easy to use and understand.

|  |  |
| --- | --- |
| Self-check questions icon | Practice activity |

#### Activity 4.3: Project documentation

This activity will provide you with an opportunity to complete project documentation and obtain necessary sign-offs for concluding the project.

1. Complete a piece of documentation for a project. You can use a template provided by your instructor, or evidence from your workplace documentation. This activity can take place in a workplace environment or simulated setting. It will need to be observed by the trainer/assessor or third party.

Topic 5

**Review project**

# Topic 5: Review project

## Overview

In this topic you will learn how to:

5.1. Review project outcomes and processes against the project scope and plan

5.2. Involve team members in the project review

5.3. Document lessons learned from the project and report within the organisation

The activities throughout this resource will assist you in your learning. These activities do not form a part of your final assessment however they will contribute to your understanding of the topic area.

## Review project outcomes and processes against the project scope and plan

By the end of this chapter the learner should be able to:

* Identify what an outcomes evaluation should state.

### Reviewing project outcomes

At the end of every project, it is important to spend time reviewing, evaluating and assessing how successful and effective each aspect of the project has been in order to identify areas of improvement for future projects.

Project review assessments may include:

* Benefits realisation review
* Outcomes evaluation
* Post-implementation review
* Project lessons learned.

Benefits do not just happen as soon as the project is finished. Time should be invested in embedding the procedures and practices that will lead to a full realisation of benefits. The true benefits may not be seen for five years after completion of the project. For example, in a landscape gardening project, you would not expect the gardener to renovate and prepare the land, plant seeds, bulbs and saplings and then leave them to bloom alone without any aftercare and cultivation. The same principle applies to all projects.

Benefits realisation includes:

* Delivering training
* Carrying out demonstrations
* Preparing training manuals
* Providing help desks and troubleshooting
* Soliciting feedback from employees and the client
* Making changes to the project after it has been completed.

Benefits realisation may not take place immediately after the completion of the project. It might not occur until six months after the project implementation review to allow the project time to establish itself.

The benefits realisation review may include the following:

* Purpose of the review – to determine whether the expected benefits of the project have been realised and whether any issues or problems have occurred.
* Expected benefits that were documented in the original business case and project initiation document.
* How the benefits have been measured?
* Resources used in benefit realisation – what support has been implemented since the completion of the project?
* Resources required to complete the review.
* Actual benefits realised after project handover:
* do they meet the expected benefits, if not, how far off are they?
* are they different from the expected benefits?
* are there more benefits than expected?
* were the benefits realised faster than expected?
* are there further benefits to be made?
* do changes need to be made to the support structure in order to realise benefits and if so, is this cost-effective?
* What non-benefits have been realised and what problems have they caused?

### Outcomes evaluation

The outcomes evaluation will be very similar to the benefits realisation review as outcomes are very similar to benefits. Outcomes and benefits are the result of your work within the project and directly related to the project objectives.

The outcomes evaluation may state:

* Expected and agreed project outcomes set out at the beginning of the project, short and long-term
* Key performance indicators to measure the outcomes
* Actual outcomes and whether they meet the initially expected outcomes, including:
* changes to knowledge within the organisation
* changes to actions and behaviour of the organisation itself and its employees
* changes to conditions
* Any unexpected and unwanted outcomes that are detrimental as opposed to beneficial
* Any unexpected but welcome outcomes that have improved the organisation
* No change at all.

### Post-implementation review

A post-implementation review (PIR) is the final step in the life-cycle of the project. It is a critical evaluation of the entire project that determines whether or not the project was a success and the reasons for this.

It is usually conducted by somebody impartial and usually between three and six months after the completion of the project. This allows the project work time to settle into the organisation and enables the benefits substantial time to be realised. It assesses each aspect of the project to determine whether or not the project has met its objectives.

A PIR performs the following functions:

* Measures the objectives, benefits, and outcomes
* Determines whether or not the project was within its scope
* Assesses the quality and accuracy of the final deliverables
* Reviews the project against the schedule
* Compares the actual expenditure against the budget
* Identifies the key achievements of the project and milestones
* Provides information and evaluation for lessons learned
* Is a method of reporting the findings to the stakeholders
* Evaluates the outcome of the project.

A report of lessons learned is vital to help to improve project management in future projects. This is covered in section 5:3.

|  |  |
| --- | --- |
| Self-check questions icon | Practice activity |

#### Activity 5.1: Review project outcomes

The activity will provide you with an opportunity to identify how to review project outcomes and processes against the project scope and plan

1. What should your outcomes evaluation state? Identify three answers.

## Involve team members in the project review

By the end of this chapter the learner should be able to:

* Identify two methods to involve team members in a project review.

### Involving team members

Involving team members in the project review can be helpful because they may have seen things from a different angle, or have particular experience in an area of the project. You should also think about the performance of the team and individuals. You will need to allocate adequate time for reviewing the performance of your team to ensure that everyone is working together as effectively as possible. You may need to organise regular opportunities for feedback for everybody involved, e.g. all internal and external stakeholders).

Methods to elicit feedback include:

* team meetings
* one-to-one sessions
* workshops
* group sessions
* surveys.

It is important to record team member’s ideas and make minutes in any meetings you have so that you have a document to refer to when planning improvements.

Sometimes it can be difficult for people to come forward with ideas. Staff need to have the confidence to do this. Therefore, supervisors and other members of the team need to be accommodating of mistakes and encourage people to try new things within the limits of their responsibilities. Supervisors need to be approachable so that staff will share their ideas with them and trial them out. Stakeholder satisfaction should be measured and analysed to gauge the success of the project. This information can be used to improve the quality of future projects.

### Measuring outcomes

Project outcomes and deliverables are usually based on the goals and desires of stakeholders; the achievement of these goals and desires is the whole point of a project. To achieve stakeholder satisfaction, these goals will need to be attained to an extent; the success of the project and its outcomes, as well as its quality, will be a major contributing aspect to stakeholder satisfaction.

Quality management tools may include:

* cause and effect diagram:
* fishbone
* Ishikawa
* control charts
* flowcharting
* histogram
* Pareto chart
* root cause analysis
* run chart
* scatter diagram.

Quality management methodologies may include:

* Continuous improvement process
* Lean management
* Six Sigma
* Total Quality Management.

Assessing the effectiveness of quality management in an ongoing manner contributes to continuous improvement; where issues are identified and resolved, an improvement has been made. Identifying poor performance and implementing a resolution prevents standards slipping and project quality becoming habitually poor. Each project should be examined regarding quality to gain the maximum benefit of continuous improvement.

### Continuous improvement

Continuous improvement is the constant determination to improve products, services or processes. This can be a result of an idea and happen instantly, or it can be a gradual progression over time. It is important to document what you learned from the process to support continuous improvement.

Continuous improvement can be tracked using a variety of methods:

* regular audits and spot checks
* notes or minutes from meetings with staff
* ask staff regularly for ways to improve
* complaints forms
* feedback and suggestion forms
* staff incentives/rewards documentation
* disciplinary documentation
* by listening to the opinions of your team and analysing these documents, you can decide on the important lessons to learn from the project.

|  |  |
| --- | --- |
| Self-check questions icon | Practice activity |

#### Activity 5.2: Involve team members

This activity will provide you with an opportunity to identify how to involve team members in the project review

1. How can you involve team members in the project review? Present your answer in no more than 50 words, and identify two different methods

## Document lessons learned from the project and report within the organisation

By the end of this chapter the learner should be able to:

* Explain how to document lessons learned and identify particular areas which might be focused on and questions they might ask themselves.

### Lessons learned

A report of lessons learned is vital to help to improve project management in future projects. Every strategy employed by the project team throughout the project should be evaluated, reported on and fed back to project authorities or senior management within your organisation at the end of the project.

#### Record essential information

To put all the strategies into context, it is important to record the details of the project.

Essential information includes:

* Project objectives, benefits, and outcomes
* Project manager and leaders
* Description of the client/customer/sponsor/investors – understanding their needs and expectations regarding governance will have a bearing on the review
* Dates of the project
* Deliverables.

#### Document a complete picture

If lessons are going to be learned, the mistakes need to be included as much, if not more, than the successes to prevent them from happening again. Include what worked, what didn’t work, and why. It is as important to document the reasons for strategies not working because they may work well in alternative projects but just were not suited to this particular one.

Suggest more efficient methods of management in the scenarios you have experienced within the project and what you would do differently in hindsight.

You should have a plethora of documents and reports that have been generated throughout the life of the project from which to compile your lessons learned report. Capturing and recording information as you go through the project allows you to analyse successes and failures at different points within the project and enables a more balanced and accurate review of governance effectiveness. If you haven’t kept records throughout the project, this in itself could be a valuable lesson learned for the next project.

Think about the following questions:

* What did you learn?
* Did you identify best practices?
* Could you use what you learned for other projects?
* What recommendations would you make for the future?
* What are the main elements contributing to this project's success or failure?

#### Be honest

To get a full picture of how effective project management was, ascertain honest and open feedback from all involved. Feedback should be sought from all team members from top to bottom in the chain of command and all information, however small, should be noted and reported to make the best improvements to future processes. Seek feedback from all other internal and external stakeholders in the same manner. Asking for the opinions of your stakeholders makes them feel valued and more motivated.

Embrace the negative comments and treat them with respect. These are the most critical aspects of the report that, if used appropriately, could transform the efficiency of project management processes. Always searching for continuous improvement keeps an organisation dynamic and at the forefront of improving efficiency; this mentality makes an organisation attractive to work with and keeps employees motivated and committed.

### Input into future projects

All of the project review assessments should be used to compile one report that highlights areas of project management and project activities that worked well and should be employed in future projects. It also highlights room for improvement and serious errors that could have been avoided, and as such what should not be employed in future projects.

Keeping accurate records, logs, and registers from the initiation stage through to the completion of the project will enable a much more accurate evaluation and review of the success of the project.

Record keeping may be a lesson learned in itself; there are numerous logs, registers, and databases to keep updated, but ultimately they are telling the story of how successful or unsuccessful your project was. If there are gaps or inaccuracies in the records, the evaluation of your project will not be complete. This not only has an impact on the project itself, but could tarnish the reputation of the project management team, particularly the project manager, and that of the client and stakeholders involved.

|  |  |
| --- | --- |
| Self-check questions icon | Practice activity |

#### Activity 5.3: Lessons learned

This activity will provide you with an opportunity to identify how to document lessons learned from the project and report within the organisation.

1. How can you document lessons learned and what particular areas might you focus on? Within your answer, think about questions you can ask yourself.

# References

Microsoft Office (2019). Link projects to create a master project. [online] Available at: https://support.office.com/en-us/article/link-projects-to-create-a-master-project-36bcd34d-db5c-403a-9eca-90e878920f2a?redirectSourcePath=%252fen-gb%252farticle%252fGoal-Create-relationships-between-projects-d1c54e93-7a35-41b4-bad2-d71ecefc7991&ui=en-US&rs=en-001&ad=US [Accessed 21 Nov. 2019].

Microsoft Office (2019). View and update task dependencies (links) across projects. [online] Available at: https://support.office.com/en-us/article/View-and-update-task-dependencies-links-across-projects-A69DFDD8-EFAA-4157-B53A-A294CF466298 [Accessed 21 Nov. 2019].

Team Gant (2019). Writing and selling a masterful project. [online] Available at: https://www.teamgantt.com/guide-to-project-management/how-to-plan-a-project/ [Accessed 21 Nov. 2019].

Australian Consumer Law (2019). Consumers and the ACL. [online] Available at: https://consumerlaw.gov.au/consumers-and-acl [Accessed 21 Nov. 2019].

OECD (2016). International Guidelines for Consumer Protection in E-Commerce. Available at: https://www.oecd.org/sti/consumer/ECommerce-Recommendation-2016.pdf [Accessed 21 Nov. 2019].

College of Pharmacy (2016). Strategic Plan 2016. [online] Available at: https://pharmacy.ksu.edu.sa/sites/pharmacy.ksu.edu.sa/files/imce\_images/final-approved-stratigic-plan\_2016.pdf [Accessed 21 Nov. 2019].

Queensland Government, Business Queensland (2019). Basic record keeping requirements. [online] Available at: https://www.business.qld.gov.au/running-business/finances-cash-flow/records/requirements [Accessed 21 Nov. 2019].

# Image attributions

| Image | Page # | Attribution |
| --- | --- | --- |
| Cover | 1 | © Getty Images copied under licence |
| Topic 1 | 9 | © TAFE NSW 2019 Project life cycle |
| Topic 2 | 37 | © TAFE NSW 2019 Examples of Gantt Charts |
| Topic 2 | 40 | © TAFE NSW 2019 PMIS visual graphic |
| Topic 2 | 44 | © TAFE NSW 2019 Risk matrix |
| Topic 3 | 65 | © TAFE NSW 2019 Organisational chart |
| Topic 3 | 77 | © TAFE NSW 2019 Status report process small projects |
| Topic 3 | 78 | © TAFE NSW 2019 Status report process large projects |
| Topic 3 | 82 | © TAFE NSW 2019 Maintainance of records |
| Topic 3 | 96 | © TAFE NSW 2019 Monitoring and controlling project risks |