BSBPMG430

UNDERTAKE PROJECT WORK

BSBPMG430
Undertake project work

Release 1

Learner Guide

Aspire Version 1.1

Aspire also has learning resources available in these areas:

· Foundation skills

· LLN and employability skills (non-competency)

· Community services

· Early Childhood Education and Care

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Before you begin

This Learner Guide is based on the unit of competency *BSBPMG430 Undertake project work*, Release 1. Your trainer or training organisation must give you information about this unit of competency as part of your training program. You can access the unit of competency and assessment requirements at: www.training.gov.au.

How to work through this Learner Guide

This Learner Guide contains a number of features that will assist you in your learning. Your trainer will advise which parts of the Learner Guide you need to read, and which Practice Tasks and Learning Checkpoints you need to complete. The features of this Learner Guide are detailed in the following table.

Feature of the Learner Guide	How you can use each feature
Learning content	▪ Read each topic in this Learner Guide. If you come across content that is confusing, make a note and discuss it with your trainer. Your trainer is in the best position to offer assistance. It is very important that you take on some of the responsibility for the learning you will undertake.
Examples	▪ These highlight key learning points and provide realistic examples of workplace situations.
Practice Tasks	▪ Practice Tasks give you the opportunity to put your skills and knowledge into action. Your trainer will tell you which Practice Tasks to complete
Summaries	▪ Key learning points are provided at the end of each topic.
Learning Checkpoints	▪ There is a Learning Checkpoint at the end of each topic. Your trainer will tell you which Learning Checkpoints to complete. These checkpoints give you an opportunity to check your progress and apply the skills and knowledge you have learnt.

Foundation skills

As you complete learning using this guide, you will be developing the foundation skills relevant for this unit. Foundation skills are the language, literacy and numeracy (LLN) skills and the employability skills required for participation in modern workplaces and contemporary life.

The following table provides definitions for each foundation skill.

Foundation skill area	Foundation skill description
Reading	▪ Organises, evaluates and critiques ideas and information from a range of complex texts
Writing	▪ Develops plans, reports and recommendations using vocabulary, structure and conventions appropriate to text ▪ Establishes and maintains records according to organisational requirements
Numeracy	▪ Uses formal and some informal, oral and written mathematical language and representation to prepare and communicate budgetary and financial information
Oral communication	▪ Participates in verbal discussions using clear language and appropriate features to present or seek information ▪ Using listening and questioning skills to seek information and confirm understanding
Self-management	▪ Identifies and responds to organisational and legislative/regulatory requirements
Teamwork	▪ Selects and uses appropriate communication protocols and practices to ensure shared understanding of project roles and expectations ▪ Uses collaborative techniques to engage stakeholders in consultations and negotiations
Planning and organising	▪ Develops and implements plans to manage projects that involve diverse stakeholders with potentially competing demands ▪ Systematically gathers and analyses all relevant information and evaluates options to make informed decisions ▪ Evaluates outcomes of decisions to identify opportunities for improvement
Technology	▪ Uses digital technologies and applications to access, organise and share information

What do you already know?

Use the following table to identify what you may already know. This may assist you to work out what to focus on in your learning.

Topic	Key outcome		Rate your confidence in each section
Topic 1: Establish project parameters	1A	Determine project scope and stakeholders	❑ Confident ❑ Basic understanding ❑ Not confident
	1B	Clarify project issues	❑ Confident ❑ Basic understanding ❑ Not confident
	1C	Identify stakeholder responsibilities	❑ Confident ❑ Basic understanding ❑ Not confident
	1D	Establish project links	❑ Confident ❑ Basic understanding ❑ Not confident
	1E	Determine and access resources	❑ Confident ❑ Basic understanding ❑ Not confident
Topic 2: Develop the project plan	2A	Develop a risk management plan	❑ Confident ❑ Basic understanding ❑ Not confident
	2B	Develop the budget and schedule	❑ Confident ❑ Basic understanding ❑ Not confident
	2C	Consult team members	❑ Confident ❑ Basic understanding ❑ Not confident
	2D	Use project management tools	❑ Confident ❑ Basic understanding ❑ Not confident
	2E	Develop and finalise the project plan	❑ Confident ❑ Basic understanding ❑ Not confident

Topic	Key outcome		Rate your confidence in each section
Topic 3: Administer and monitor the project	3A	Communicate responsibilities to team members	❑ Confident ❑ Basic understanding ❑ Not confident
	3B	Establish and maintain records	❑ Confident ❑ Basic understanding ❑ Not confident
	3C	Manage budgets, resources and quality	❑ Confident ❑ Basic understanding ❑ Not confident
	3D	Undertake risk management	❑ Confident ❑ Basic understanding ❑ Not confident
Topic 4: Finalise and review the project	4A	Complete financial records	❑ Confident ❑ Basic understanding ❑ Not confident
	4B	Complete project documentation and obtain approvals	❑ Confident ❑ Basic understanding ❑ Not confident
	4C	Review project outcomes	❑ Confident ❑ Basic understanding ❑ Not confident
	4D	Document feedback and improvements	❑ Confident ❑ Basic understanding ❑ Not confident

Topic 1 | Establish project parameters

1A   Determine project scope and stakeholders

1B   Clarify project issues

1C   Identify stakeholder responsibilities

1D   Establish project links

1E   Determine and access resources

1A Determine project scope and stakeholders

A project is a temporary task or workflow that is undertaken to create a new product, service or result. Because of its temporary nature, there is always a clear starting point, end point and set of objectives.

Not every type of work can be classed as a project. Although the size, length and complexity of a project will always differ, it is important to distinguish the differences between project and non-project work. Common examples of projects include the introduction or upgrade of a new system, development of a new product or service, construction of a physical structure and implementation of a new system.

One of the unique aspects of all projects is that they follow a unique flow of phases called the *project life cycle*. This is essentially a series of stages from project start to completion.

The five stages in a project's life cycle are:

Initiating

1. Define the new project and obtain authorisation to start the project.

Planning

2. Establish the scope of the project, refine the objectives and define the course of action required to achieve the project's objectives.

Executing

3. Complete the work defined in the project management plan to satisfy the project specifications.

Monitoring and controlling

4. Track, review and regulate the progress and performance of the project; identify where changes to the project plan are required and implement them.

Closing

5. Finalise all activities across all process groups to formally close the project.

Project management

Project management can be defined in terms of managing time, cost, resources, activities and specifications to ensure the needs and expectations of stakeholders are achieved through the handover of a deliverable.

Project management involves overseeing a series of activities that together result in the successful achievement of a set of goals. These activities include planning, scheduling and maintaining progress of all the tasks that comprise the project throughout its entire life cycle.

A project management team is responsible for the plan, implementation and overall performance of the project. The team can comprise a small group, a project management department, an organisation or a number of specialised project management organisations.

Project parameters

Whatever role you play on the project team, you need to understand the parameters of the project – in other words, what the project involves, including the key outcomes and deliverables to be achieved.

Project management means understanding what you and your team have to do, by when you have to do it, how to do it and why you are doing it. It also requires a firm knowledge of what isn't included in the project and the key issues that the project team will face along the way.

Project parameters include the following:

Project deliverables
The details of the outcome/s, such as a tangible object produced as a result of the project that is intended to be delivered to a client at the closure stage
Inclusions
The activities that fall inside the boundaries of the scope plan. The common term used in project management is 'in scope'
Exclusions
The activities that fall outside the responsibility of the project team and organisation. These may be the responsibility of the client or another vendor
Project team structure
The organisational chart describing the structure, roles and responsibilities of the project management and front-line team

Assumptions
The things believed to be true but that are yet to be tested or confirmed and that generally involve a degree of risk. They are used to establish the project environment and also to provide a basis for planning, estimating and risk management

Constraints
The restrictions stopping or limiting the project's progress and options

Risks
The threats that may prevent the project from reaching its objectives and the risk responses that will be implemented to treat and control the risks

Quality specifications and outcomes
Details of the required technical, quality, safety and performance standards of the end product for a project, or how the project is to be carried out

Costs
The set budget that is approved by the business owners/directors to fund the required work during the time allowed

Timing
The pre-determined fixed start and end dates; these allow little flexibility. The overall length of time determines the schedule of work and when deliverables are completed

Project scope

In project management, scope is defined as the extent of the project and identification of all relevant information that may be needed to understand the project.

Project scoping is part of stage one of the project management life cycle and is a crucial step in the planning phase.

It must cover everything necessary to ensure the project team has a firm understanding of the work required to complete the project successfully.

The project scope must identify the following:

What	What the project is aiming to achieve, including the project's purpose and deliverables
Why	Why it is important to achieve the goals and objectives
Who	Who the stakeholders are who will be involved in managing the process and what their responsibilities are
How & When	How and when the project will be undertaken, including milestones and project end dates

Types of project scope documentation

To understand the scope of a project, you need to access a range of reliable documents (project initiation documentation). This helps prepare the project plan by improving clarity in the scoping process.

Depending on your organisation, the type of project you are working on and how it evolved, the type of initiation documentation available about the project can take many forms.

Project initiation documentation may include:

- a contract or agreement such as a memorandum of understanding (MOU), which describes the scope of the project and responsibilities of all parties
- a project brief, usually from the client or project sponsor
- a summary of project phases detailing what needs to be achieved and by when
- draft documents explaining the initial estimated time frames and schedules for the project
- quality standards and specifications for the project.

The project brief

The manager and project team members should conduct scoping exercises to develop a project brief.

A project brief is a formal document that sets out in detail all the project requirements. A comprehensive brief document is crucial to the smooth running of a project. While it is not essential for all stakeholders to be involved in developing the project brief, they should be consulted at every stage of the development, be clear about their particular role and receive a copy of the final document.

Key sections of the brief include the purpose, objectives and outcomes shown below. They form the basis for the project and define the subsequent actions to be taken:

Purpose	A broad rationale that encompasses all the subsequent objectives. For example, to develop promotional material
Objectives	Clearly stated qualitative and quantitative aims of the project. For example, 'to design and develop a poster, brochure, catalogue and electronic newsletter to enhance the organisation's image in the marketplace'; 'to raise awareness of the organisation to a wider customer base'; or 'to increase sales by 10 per cent over a three-month period'
Outcomes	Stated in terms of measurable organisational benefits. For example, promotional material is developed and is fulfilling its objectives with a 5 per cent increase in customer inquiries, anecdotal evidence of customer satisfaction and an 8 per cent increase in sales over the three-month period immediately following the release of the material

Understanding legislation

When assisting in the management of a project, you need to be aware of your role and personal responsibilities, including the relevant laws that may impact the project team.

Project managers and team members have responsibilities to follow any legislation, codes and industry. You don't have to know every detail of the legislation, but you need to know the types of duties you must comply with, as your organisation can be held liable for any issues that arise if you haven't followed the laws correctly.

Your organisation should have embedded relevant legislation and other practices into its policies and procedures, so if you follow these, you will meet your workplace obligations and comply with the law. However, always ensure you consider what's required of you when managing a project.

Here is some of the legislation you are required to be familiar with:

Workplace relations
Workplace relations are governed by the *Fair Work Act 2009* and the *Fair Work Regulations 2009*. This legislation outlines the obligations of both employers and employees with regard to the employment relationship. The Acts are in place to provide minimum entitlements to employees and to enable flexible working arrangements to ensure employees are not discriminated against.

Work health and safety (WHS)

WHS legislation includes:

- work health and safety Acts
- regulations
- codes of practice.

In the WHS legislation, workers and other persons are given the highest level of protection against harm to their health, safety and welfare from hazards and risks arising from work, so far as is reasonably practicable. A person conducting a business or undertaking (PCBU) has the primary duty of care to maintain a safe and healthy workplace. The PCBU must ensure, so far as is reasonably practicable, the health and safety of workers and other persons who may be affected by work carried out by the business or undertaking. This includes identifying hazards that may cause harm, assessing risks and eliminating or minimising hazards and risks.

The Work Health and Safety Act 2011 describes the legal requirements as:

- managing risks to health and safety, including risk assessment and control
- protecting people at work from injury and illness, including psychological injury
- protecting the health and safety of the public in workplaces
- consulting workers and encouraging participation in maintaining WHS, including the establishment of health and safety committees
- training people in safe operating procedures
- implementing procedures for workplace hazards
- identifying hazards
- applying emergency and evacuation procedures
- observing the requirements for maintenance and confidentiality of records of occupational injury and disease.

Anti-discrimination

Anti-discrimination legislation is contained in a series of Commonwealth, state and territory Acts that require workers and employers to treat everyone the same regardless of age, gender or background. Commonwealth Acts include:

- the *Age Discrimination Act 2004*
- the *Australian Human Rights Commission Act 1986*
- the *Disability Discrimination Act 1992*
- the *Racial Discrimination Act 1975*
- the *Sex Discrimination Act 1984.*

All employees are entitled to work in an environment that is free from discrimination and harassment. It's important that as a project team leader you understand your rights and responsibilities under human rights and anti-discrimination law. By putting effective anti-discrimination and anti-harassment procedures in place in your team, you can ensure compliance with the law.

Privacy legislation
The Privacy Act 1988 (Privacy Act) is an Australian law that regulates the handling of personal information about individuals. The main goal is to protect an individual's personal information from unauthorised use, access, theft and disclosure when handled by most private sector and government organisations.

There are 13 Australian Privacy Principles described in the Act:

- APP 1: Open and transparent management of personal information
- APP 2: Anonymity and pseudonymity
- APP 3: Collection of solicited personal information
- APP 4: Dealing with unsolicited personal information
- APP 5: Notification of the collection of personal information
- APP 6: Use or disclosure of personal information
- APP 7: Direct marketing
- APP 8: Cross-border disclosure of personal information
- APP 9: Adoption, use or disclosure of government related identifiers
- APP 10: Quality of personal information
- APP 11: Security of personal information
- APP 12: Access to personal information
- APP 13: Correction of personal information

Defining project stakeholders

Project stakeholders are people or groups who have an interest or a stake in a project and its outcomes or who may be impacted by the initiatives of the project.

Stakeholders can represent extremely diverse needs and interests. They may have different concerns, priorities and expectations that you and your team must understand and consider if you are to meet their requirements. Balancing these needs is a key element of a project manager's role.

In summary, you need to:

- ensure the project delivers outcomes that meet stakeholder needs
- report on project progress in ways that suit the stakeholders' requirements
- address any issues or concerns that stakeholders raise throughout the course of the project.

Types of project stakeholders

Every important decision about a project must be made in consultation with the key project stakeholders.

The number and type of stakeholders will vary depending on the size, complexity and nature of the scope of works.

Stakeholders can include one or a combination of the following individuals or groups.

Steering committees	• Steering committees and reference groups are people with expertise and experience who guide and support the project manager in achieving the project's goals. Committee members may come from inside the organisation and/or from a number of different organisations. Acting as consultants to the project, they need to be kept thoroughly informed at every stage. You may need to arrange meetings with them, provide them with project documentation and act as a key contact between them and your team.
Project sponsors	• Project sponsors are the owners or clients of the project. They are responsible for confirming the business need for the work and are usually responsible for the financial backing of the project. In addition, the sponsor's role is to provide a single point of authority for the project manager regarding supervisory decisions. In practice, the project manager usually reports to the project sponsor, and the project sponsor reports to other senior stakeholders such as a board of directors or government minister. • To establish an effective relationship with the project sponsor, you need to confirm their expectations of you and your team, including reporting periods, preferred communication methods and any other relevant milestone reports.
Program managers	• Multiple, interrelated projects are managed by a program manager. You may be required to act as a program manager in the event that the project is split into different functional area projects or additional projects are added to your portfolio. Program managers collate and feed information between sponsors or senior managers and the project managers who report to them, and are usually responsible for budget and resource allocation between projects.

Managers and employees	▪ Depending on the project's scope, you will probably find that it impacts other departments, teams, managers and staff in your organisation. You need to analyse the effects the project may have on these stakeholders to formulate a communication plan and risk management plan for these interactions. The extent and breadth of these interactions will determine the amount of collaboration you may need to enter into. ▪ Seek feedback and input from specialist managers whose knowledge and experience can benefit the project. This may include other project managers, specialist managers in fields, or representatives of staff or employee groups. Ensure you meet or speak with these experts, who can provide you with more information as to how your project may impact other areas.
Clients	▪ The scoping phase of a project should include an assessment of the impact it will have on clients or customers (internal and external). Some projects will be instigated with a view to changing product or service deliverables or the way the organisation communicates with clients. In these situations, the impact on clients is both deliberate and significant. Clients must be made aware of changes that require them to interact with your organisation differently or that impact on them negatively, even if only for a short period of time.
Funding bodies	▪ Funding bodies are groups or individuals who provide money to fund project operations. They may be: – internal, such as departments or managers in your organisation who have allocated money from departmental budgets for the project – external, such as industry bodies, banks, government departments, shareholders, other businesses or private investors. ▪ Funding bodies are similar to investors and need to see evidence of a return on their investment. This means you need to inform representatives of the project's progress, goals reached and benefits being realised as a result of the project. This may involve providing a copy of regular reports or creating special reports that address the specific interests and needs of the funding bodies.
Project managers	▪ The role of project manager or coordinator is the key to a successful project. This role requires you to plan, communicate regularly with relevant stakeholders, monitor the project's progress, handle any difficulties that arise and prepare reports as required. You also need to ensure that all project team members work cooperatively and that their skills are used for the benefit of the project.
Project team members	▪ Members of the project team can be drawn from an existing team or from a number of different areas according to their expertise, experience, skills and knowledge. All members need to feel they are part of a close working unit, so teamwork and communication are very important factors. Team members may be immediate (working in the project office) or extended (working on-site or away from a central location).

Example

Project planning checklist

Here is a checklist you could use before commencing work on a project to help you define the project scope, key stakeholders, objectives and particulars of the project.

Project planning checklist

- ❑ Collect all available project information and documentation, including its purpose, how the need for it arose, who was involved in scoping the project and so on.
- ❑ Explain the link between the organisation's goals and the reason for the project: Why are you doing this?
- ❑ Create some quick-reference pages that include a list of contacts, a time line showing key dates and other important information such as budget details.
- ❑ Find out who you can contact if you have any questions before the project begins and while it is underway.
- ❑ Establish who you should report to and how the relationship will work on a day-to-day basis.
- ❑ Clarify what's expected of you as project manager and what specific responsibilities you will have during the course of the project.
- ❑ Understand the decisions you are authorised to make and the level of expenditure you can approve.
- ❑ Find out what processes to follow when you need to refer decisions or budgetary sign-offs to others.
- ❑ Create a list of all project stakeholders as well as people you think would benefit from receiving project updates.
- ❑ Investigate stakeholders' expectations regarding information and regular reports; that is, expected level of detail, format, frequency and delivery.
- ❑ Use reporting templates or copy the style and format of reports that meet with the approval of stakeholders. Use the same format and delivery method for regular reports.
- ❑ Match available resources with your estimation of necessary resources. Address any discrepancies as early as possible.
- ❑ Determine whether other current or planned projects will affect your own project and investigate how your work may influence or be influenced by other projects.
- ❑ Determine whether you can share resources, ideas, tools or templates with other projects.
- ❑ Understand how to access available resources.
- ❑ Check that you have considered, and are complying with, any relevant legislation.

Practice Task 1

Question 1

Draw a line to match each project stakeholder to their definition.

» Steering committee	» Key authorities and owners of the project
» Project sponsor	» Groups or individuals who provide money to fund project operations, such as those that are split into different functional area projects
» Funding body	» People who manage interrelated projects, such as different functional areas of a project
» Program manager	» People with expertise and experience who guide and support the project manager in achieving the project's goals

Question 2

Which of the following details are identified in the project scope? Tick all that apply.

○ Key stakeholders

○ Quality outcomes

○ Milestones and end dates

○ Client handover processes

○ Assumptions, risks and constraints

○ Project evaluation and review

Question 3

List three types of documents you would need to collect to define the scope and parameters of a project.

Question 4

List three types of law that can impact the work of a project management team.
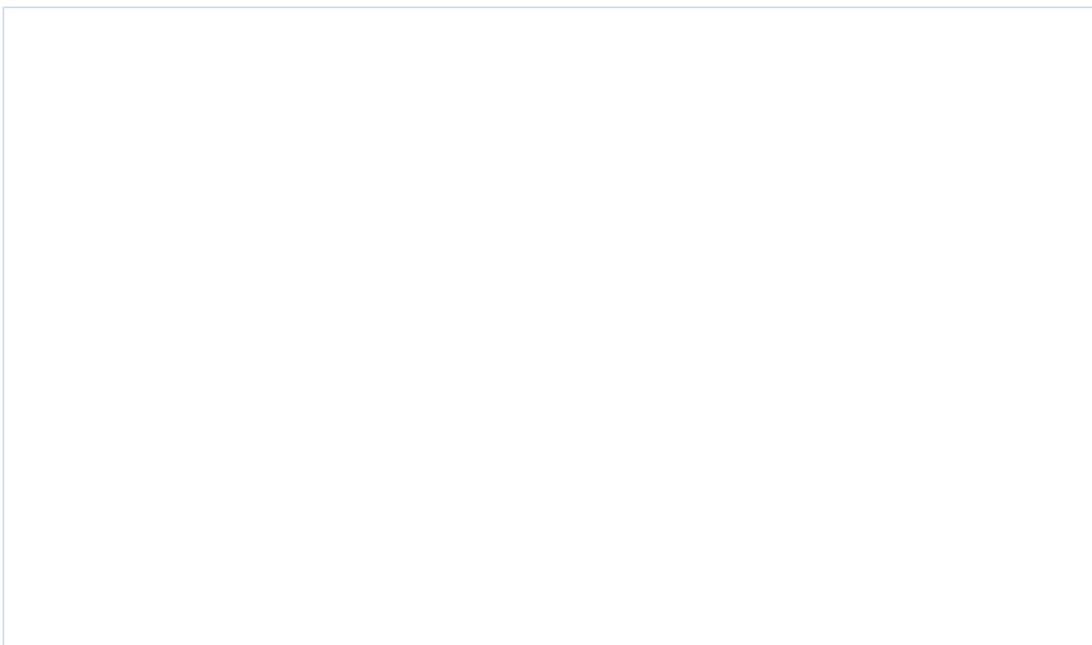
1B Clarify project issues

In the early stages of project planning, it is important to determine any issues relating to the project and its parameters as this enables the project management team to prepare for and mitigate these before they impact the project.

The project planning phase must be thorough to ensure the project is clearly defined, including all possible issues that may arise. This means you must seek clarification on any aspects of the project that are uncertain, particularly issues involving time lines, deliverables, resources and costs.

Many projects fail due to a lack of planning. It is important to ask the project management team and the delegating authority (usually the project sponsor) key questions to help you determine what information you need so that you are aware of the problems you might face.

You may find some of these questions can't be answered at this early stage of the project. However, you should endeavour to source as much data as you can, as early as possible, so you can clearly define the project's potential issues.

Questions to ask include:

- What outcomes are expected of this project?
- How do the expected outcomes relate to / link in with our organisation's broader goals?
- How does my team relate to the project? What skills, experiences and knowledge does my team have that will help the project be a success?
- Who is the project sponsor?
- What is the scope of the project?
- Who has approved this project and allocated funds to it?
- Do I have a copy of the business case or other proposal that was presented to this individual or these people that shows the basis for their decision to approve and fund the project?
- Why has this project been chosen rather than other possible ways of meeting the need that was identified?
- Has a project plan been developed? If not, have phases or key deliverables been identified?
- What is the time frame within which the project must be completed?
- What resources have been allocated to the project?
- Have I been provided with a contract for the position of project manager? If not, what are my responsibilities?

- Will I have a certain amount of time allocated to spending on the project? Am I completing the project as part of my usual duties? Is the project something I will work on exclusively instead of my usual duties?
- Does the project have to meet any specified quality standards? If so, what are they?
- What are the project sponsor's and/or my own manager's expectations in relation to reporting on project outcomes and deliverables?
- Is there any other documentation that will help me understand the project and my role? How do I access this documentation?

Clarifying project issues with project authorities

Project issues can be defined by consulting with key delegating authorities using an effective two-way communication process.

Many people make up the project management team. They will have varying levels of authority regarding the key decisions that need to be made.

The project sponsor is, in most cases, the key authority that provides the financial resources, in cash or in kind, for the project. The project sponsor works with the project management team, helping with project matters such as funding, scope clarification and progress monitoring, and influencing others in order to benefit the project.

A project sponsor often authorises the project by approving a project plan. Sponsors have a major interest in the project's success, and therefore, at times, may take an active role in the project team.

The authorities in a project team are:

- the project sponsor (business owner or director)
- the program manager
- the project administrator
- the specialist project manager
- the client.

Categories of project issues

Any potential issues that could impact negatively on a project's objectives, as well as other parameters, need to be defined with the project authority as part of the planning phase.

Common issues relating to a project's parameters that the project management team will need to understand before the project commences are listed below:

Regulatory requirements	• Ensuring you have adequate understanding of legislative requirements is vital, particularly if your organisation operates in an industry that is subject to any kind of regulation, is accredited with any recognised quality standards or is dealing with government contracts. • Although some industries are more heavily regulated than others (e.g. airlines, financial service providers or construction firms), there are laws and guidelines that affect all businesses in some way. Work health and safety, equal opportunity, environment protection, industrial relations and anti-discrimination laws, guidelines and policies need to be understood and addressed by all companies. This may mean allocating additional resources to the project to ensure compliance.
Quality standards	• Complex projects or those requiring government funding often include definitions of the standard the project is expected to meet or the qualifications and experience required by project participants in their scoping. For example, production may need to meet International Organization for Standardization (ISO) quality assurance standards; personnel may need to have specific credentials; or only specific permitted materials must be used. • Quality standards should be outlined in the project plan's specifications section. Additionally, client requests for tender generally outline the quality specifications that can be clarified during the negotiation and contract process.
Critical time lines	• As project manager, one of the first things you need to know is how quickly the work needs to be completed. The time in which you are expected to deliver a completed project will have a major impact on the resources (people, budget, etc.) you need to complete it. • Project time lines relate to more than start and finish dates. They include dates for major activities to be completed (referred to as project milestones), key reporting dates (e.g. at the end of each month the project runs) or dates the project enters a new phase (such as planning, implementation and review). These are all important in the project time line.

Available budget	• Ensuring sufficient funding is one of the most important roles of a project manager. Knowing the budget constraints of the project you are working on and how funding has been allocated (raw materials, human resources, office supplies, etc.) is crucial. Just as important is tracking the spending of assigned budgets through the project's lifetime, and reporting on how money has been spent at the project's conclusion.
Human and physical resources	• Whether your project has funding for the purchase of additional resources or you have to use resources currently available, you must be absolutely clear on what resources will be needed to achieve the agreed goals. • Resources have the potential to affect a project's success or failure. Effectively controlling resources requires the integration of systems between the project office team, the suppliers and the workers carrying out the project. Potential issues such as late delivery, insufficient stock or equipment, equipment failure and inappropriate equipment can best be dealt with when the systems allow for a quick response.
Procurement requirements	• As with other operational activities, your project is likely to need materials, computer software and hardware, services provided by external groups and other items usually sourced through your organisation's purchasing or procurement team. You need to determine the procurement protocols that apply during the project. Discuss these issues and work out a suitable process with those in your organisation who are usually responsible for procurement to ensure your project has the required resources.
Risks involved with the project	• Risk assessments are done continually throughout the project's life cycle. An initial evaluation should be carried out based on the project's agreed outcomes and included in the scope documentation. Once identified, you need to develop a risk control plan to monitor and manage risks throughout the duration of the project.

Consultation methods

At the commencement of the project you may need to confirm issues relating to project parameters with relevant authorities, using effective consultation methods.

It is important to select the most appropriate method for engaging with project authorities, to ensure the communication process is effective. For critical issues, a live, two-way discussion is appropriate, as opposed to email, SMS or mail.

Based on your role in the project and the agreed communication procedures, effective communication methods may include the following.

Electronic	Email, messenger apps, webinars, facsimile, public announcement (PA) systems, two-way radios, tele-conferencing, text messages/telephone or other internet-based communications
Non-electronic	Group meetings, one-on-one discussions, letters, memos, posters, signs, hand gestures
Live/real-time	Communications by which feedback can be sent and received immediately, e.g. a telephone discussion, ad-hoc discussion or face-to-face meeting
Virtual	Communications with a delayed response, e.g. email

Example

Project briefing form

Louisa manages a team of writers at a large company. Her team is responsible for writing material for a diverse internal customer base, including teams from human resources, marketing, finance and sales.

Every project they work on is different. One week they may get a request from finance to write a management update on new expense claim procedures; the next, human resources want them to write an induction kit for new staff. These requests come in many forms. Sometimes they get a phone call, sometimes they receive an email containing the basics, and sometimes they have to attend a meeting with the customer for a project briefing. This creates a lot of problems as the team often receives either too much information, not enough information or the wrong type of information.

To help them successfully manage each project, Louisa develops a way of understanding exactly what each project is about; what is required from her team; and what information is necessary to complete the project. She now has a project briefing form that staff must complete when they have a project request for her team. This form outlines:

- exactly who the project sponsor is
- the purpose of the project and where it fits into organisational goals
- what the desired outcomes are
- the time frames involved
- budget allocations
- key points to be covered
- all relevant stakeholders.

It also requests that existing information be attached to the brief.

Since implementing this system, Louisa finds that not only is the team's understanding of each project much clearer, but they are also able to deliver much better service and results because they work to clearly defined goals. The team is able to complete all projects to deadline, as they don't waste time chasing information.

Practice Task 2

Question 1

Who can you consult with when clarifying project issues?

Question 2

Which of the following methods of communication would be most appropriate when discussing critical issues relating to project parameters with key authorities?

◯ Email

◯ Live video conference call

◯ Board meeting

◯ Teleconference call

◯ Letter

Question 3

Draw a line to match each term about project issues to its definition.

» Budget   » Meeting industry benchmarks or set standards as set out by Standards Australia or the ISO

» Quality standards   » Key milestones and project end dates

» Critical timelines   » Sufficient staff who are skilled to carry out the relevant parts of the project

» Human resources   » Sufficient funding to hire staff and purchase materials

1C Identify stakeholder responsibilities

A project stakeholder is any internal or external person, group or organisation who has an interest in the project, or is influenced by the project.

At the outset of the project, you should review and collect information to determine the responsibilities of relevant stakeholders and the reporting requirements they expect from the project management team.

Who you contact and how many of these people you need to consult with depends on the complexity and nature of the project.

Project stakeholders and their responsibilities may include the following:

Internal stakeholders
Project manager: The person with the final responsibility to oversee the performance of the project, coordinate activities and monitor progress against the project management plan; helps to facilitate the changes required
Project sponsor: Usually the client, business owner, directors, chief executive officer (CEO), general manager (GM), upper level manager/executive who is funding and backing the project and is ultimately responsible to the organisation for the success of the project
Project administrator: Responsible for maintenance of the project plan, schedule and budget, and possibly maintenance of the project website (if appropriate); provides administrative support to the project manager and other management team members
Program manager: Oversees and coordinates a range of projects in the organisation
Project management office (PMO): The central repository for all 'project work'; responsible for registration, documentation, training, resourcing, approvals, change requests and reviews
Project steering committee: Provides guidance, direction and control to a project in an organisation
Managers and supervisors: May have specialist knowledge and duties that require them to be a part of the project management team (e.g. a manager responsible for a particular WHS aspect in the organisation may retain authority over the part of the project that relates to WHS); can be due to the skills, training and legislative requirements the manager/supervisor possesses
Project controller: The person in charge of managing the timing, expenditure and scheduling of the project in the execution phase only
Project team members: The engine room of the project; the people who work on specific technical aspects of the project to achieve each individual milestone and complete the required activities

External stakeholders
Specialist consultants: Personnel who are experts in their field may be contracted to assist with specific parts of the project, e.g. risk management or contractor management
Client: The person or group who posed the request for the deliverable and has a need or problem that the project must solve
End users: The people for whom the deliverable is being built; the groups the client has in mind when the project is conceived
Legislative and regulatory bodies: Some projects may require reporting to and liaison with legislative and industry regulatory bodies; processes for establishing interaction with these bodies, and when, need to be defined early in the project to ensure any decision approvals are met before the project can proceed to the next stage
Third party providers: Examples include insurance agents, lenders/financial institutions or union representatives

Project stakeholder responsibilities

There are several techniques you can use to determine who your project stakeholders are, their responsibilities and what they need from you.

Some methods you can use to clarify the needs and responsibilities of project stakeholders are:

- establishing a consultation process of two-way interaction and communication, sharing information and seeking input from the stakeholder
- seeking expert input from groups or individuals with specialised knowledge and training in project management, stakeholder identification and business relations
- reviewing the organisational structure
- reviewing human resource management plans
- reviewing position descriptions.

Clarifying reporting responsibilities

As part of your discussions with the sponsor or other authority, you will need to confirm the expected reporting requirements for the project.

When clarifying reporting responsibilities, ask yourself and your key stakeholders these questions:

- Who requires information regarding the progress of the project?
- What are each person's or team's expectations regarding information?
- Do some people want different types of reports at different times? For instance, milestone reports may be required.
- Can I put these people's expectations into logical categories?
- Are there some managers who only want summary information on a monthly basis?
- Do others want detailed information on project financials every fortnight?
- Does the project sponsor want a detailed report every week?
- Are there existing templates or reports I can access or adapt for these different types of reports?
- Do stakeholders have templates or styles of reports they would like me to use?
- What information should I share with and report on to project team members?
- Does my organisation have any project management procedures or policies I need to work within?

Project management reports

Information about project performance must be communicated to your key stakeholders to ensure they are kept informed about important matters.

Project reports are distributed to project stakeholders throughout the project implementation phases. They are used to communicate whether the baselines (original agreed budget, schedule and scope) are being achieved or exceeded as well as issues about variances and corrective actions.

The most common reports used in project management work are set out below:

Budget-vs-actual report
Describes the budgeted and actual costs incurred for an activity or purchase and the variance for each costing
Progress report
Includes the budget and cash-flow information, dashboard summary, risk and quality issues, variations and changes, as well as project, task and milestone commencement, progression and completion details
Status report
Details where the budget, schedule, tasks and milestones are in relation to the status date. Status reports can also be used to explain conformance with project specifications and resources usage
Issue report
Provides a short summary of an identified issue and an impact analysis of how it is affecting the project's scope, budget and schedule

Practice Task 3

Question 1

Draw a line to match each type of project stakeholder report to its purpose.

>> Budget-vs-actual report

>> Status report

>> Progress report

>> Issue report

>> Shows conformance with project timelines, specifications and resources

>> Provides a short summary of a problem and an impact analysis of how it is affecting the project's objectives

>> Shows the key budget and cash flow information, dashboard summary, risk and quality issues, variations and change

>> Explains variances and achievements of the project's budget

Question 2

List five questions you would need to ask your project team and stakeholders to define your reporting responsibilities.
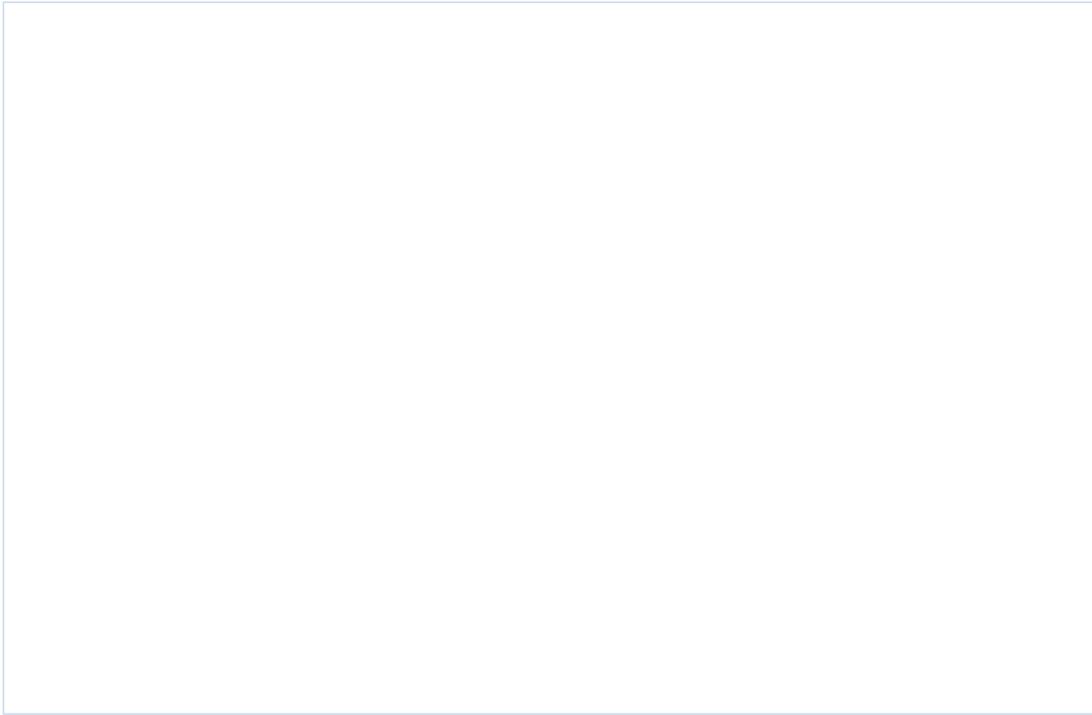
Question 3

List three questions you need to consider when clarifying the reporting requirements of project stakeholders.
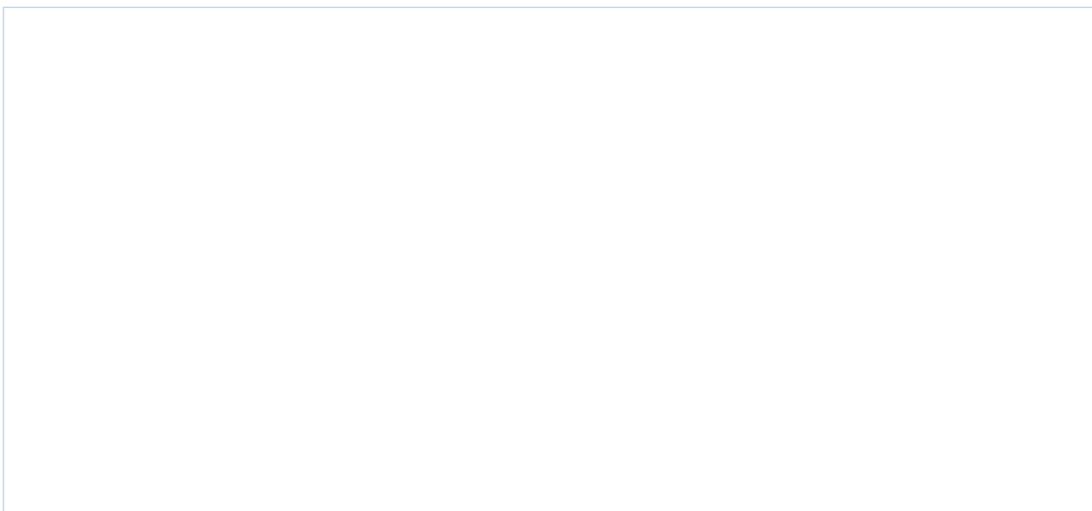
1D Establish project links

Any project to which an organisation devotes its resources should make a positive contribution to at least one of its business objectives.

The project sponsor and other stakeholders must clearly explain how the project fits in with organisational objectives and aligns with other projects that are being planned for or carried out.

As a key member of the project management team, you need to understand how each project fits into the bigger picture. You will need to clarify the project impacts on business objectives and other initiatives with key people in the organisation.

Stakeholders you may need to consult with include:

- senior management team members such as the general manager, a director or the chief executive officer
- other project managers
- managers and supervisors
- project controllers
- program managers
- project administrators
- project sponsors.

Identifying impacts on interrelated projects

Knowing how your project fits within the larger scheme of activities helps you gain perspective when negotiating for resources or funding.

Rarely do projects stand alone. They are usually interrelated with other organisational objectives or initiatives, or external projects that have dependent outcomes.

Project management team members must collect information about interrelated projects and contact key stakeholders, such as project managers in other projects, to open a two-way communication process. This may include sharing data, information about resource usage and milestone achievement.

When identifying your project's relationship to other projects in your organisation, you should ask yourself the following questions. (Please note: if you answer 'yes' to any of the following questions, you need to investigate further to clarify each situation with your sponsor or other managers.)

- Will other projects take focus or resources away from my project?
- Is there a sense of one project being more urgent, critical or important than another?
- Can I meet with other project managers to share information?
- Are there any cultural differences I need to consider regarding the way I communicate with other managers?
- Is my own project dependent in any way on the successful completion of another project?
- Are there tools, procedures or systems used for other projects that I could adapt for use in my own project?

Determining a relationship using organisational goals

First and foremost, projects must aim to produce value for the organisation and support its strategic goals.

New opportunities to initiate a project that creates value to the organisation may arise from market research, feasibility studies, innovative breakthroughs or feedback from a client or other business.

Organisational objectives define the direction and focus of an organisation over a period of time. They aim to provide the organisation with an advantage through specific and measurable goals designed for achieving success in the marketplace.

The two elements of project and organisational goals must marry up to ensure consistency in direction.

Each project must align with the organisation's goals, objectives, mission and operations as defined in the table below. This ensures consistency in the development and direction of the organisation's initiatives and activities and eliminates conflicts in the business.

To ensure you have a strong level of understanding of these imperatives, it is good practice to review your charter with key stakeholders such as senior management, the business owner, directors and the project sponsor.

Organisational goals
Organisations set goals to show where they are headed and what they want to achieve over a period of time. Goal statements are usually long term, high level and not quantifiable (unlike objectives).

Organisational objectives
Objectives are the specific, measurable and actionable standards and metrics that must be achieved to ensure the organisational goals are met. They are often quantifiable and are stated in terms of business growth, market share, sustainability, environment, health and safety, and financial objectives (profit and revenue).

Organisational mission
A mission refers to a statement that clearly identifies an organisation's reasons for its existence. It defines the present state or purpose of the organisation. A clearly defined mission statement should address three key questions: ▪ What is it that we do? ▪ Who do we do it for? ▪ How do we do what we do?

Operations
The term 'operations' refers to all of the day-to-day functions of an organisation that contribute to making profits and meeting customer requirements. Operations involve the use of resources (including time, people, equipment and money) to produce products and services to meet customers' requirements.

Example

Installation of software

A retail company is installing a new retail management system and point-of-sale software. This project coincides with the pre-Christmas marketing period, but is seen as an essential upgrade that can't be put off. The pre-Christmas period includes the production of a catalogue, posters to hang in-store and seasonal ticketing for product displays. The two projects will overlap in-store when staff will need to put up displays and attend training on the new software. There will also be potential disruptions to customer service during this peak period.

The two project managers, Alan (IT) and Susan (Marketing), meet prior to the two projects' implementation to work through these potential issues. The starting point is to review the organisation's corporate objectives. By understanding the real intent of the company (why it exists) Alan and Susan can prioritise tasks objectively to maintain the company's operational momentum.

They then move on to their time lines and the decisions behind each of the time lines. This also helps to prioritise work. The decision is made to postpone certain elements of the IT roll-out to best achieve sales during the seasonal promotion. These elements will be caught up in early January when no project or corporate objectives will be in conflict.

The outcome of the meeting is reported to the CEO and management team, who agree on the project managers' decision.

Practice Task 4

Question 1

Which of the following statements are correct? Tick all that apply.

- ◯ Business objectives are high level and set out the strategies to be achieved over a five-year period.
- ◯ Business goals are high-level statements that support the organisation's strategic plans.
- ◯ A mission statement describes the guiding principles for decision-making and sets the tone for the culture of an organisation.
- ◯ A business's operations are about how products and services are produced, including the effective use of resources such as time and money.

Question 2

Which of the following stakeholders can help you determine project links with other project and business goals? Tick all that apply.

- ◯ Clients and customers
- ◯ Other project managers
- ◯ Organisational leaders
- ◯ End users
- ◯ Program managers

Question 3

What are five questions you can ask when identifying interrelated projects in an organisation?

1E Determine and access resources

The project initiation process should include planning activities to identify and access project resources.

Project resources are anything that project teams need to achieve the objectives of the project. They interrelate with the requirements of the work breakdown structure (WBS), budget and project schedule. Resources can be human, physical or financial.

During the initiation process, project resources may be required in order to:

- develop or obtain quotations for the client
- purchase equipment or materials
- engage vendors to provide goods and services
- engage specialist staff and contractors for a nominal period of time to conduct work during the project initiation phase
- backfill staff who are seconded internally to work on a project
- pay for overtime for human resources to conduct project initiation tasks.

Determining project resource requirements

As a key part of the project management team, one of your first steps will be to gain a firm understanding of the resource requirements for the project.

The following table details the resource categories typically used in business projects:

People	Personnel may be full time, part time, contract based, casual, assigned to the project from other roles in the organisation, hired only to work on the project, or working on the project in addition to their usual duties.
Technology and information	Technological issues involve data and systems integration, security, storage and input/output devices. Reporting requirements and support functions fall under this category.
Raw materials	Raw materials are used when working on a project that involves developing, testing or otherwise working with products your organisation produces. Knowing the quantity to order for a project is crucial.
Working capital	The cost of all individual resources, including time, must be calculated to estimate the costs of the entire project.
Plant and equipment	Equipment, machinery, power sources, plant, buildings and transport may be key factors when assessing a project's resource allocation.

Determining availability of resources

You need to know how to ensure all of the resources required for your project are available.

You can obtain information about a project's resource needs by consulting with your key stakeholders and reviewing project documentation.

Project stakeholders	- Steering committees - Project sponsors - Program managers - Managers and employees - Clients - Funding bodies - Project managers - Project team members
Project documentation	- A contract or agreement such as a memorandum of understanding (MOU) - Project brief - Summary of project phases detailing what needs to be achieved and by when - Project budget - Project schedules - Quality standards and specifications for the project

Accessing resources

Understanding how to properly and efficiently access the resources needed to execute a project is another key responsibility of the project management team.

It is important to determine where and how to access resources for a project. In some cases, interrelated projects may impact on resource availability directly; for example, skilled staff or specialised equipment may be engaged on another project. Alternatively, some resources may be indirectly tied up in other projects, such as finance being spent on completing a more important project.

Machinery, tools and equipment may need to be purchased or hired from a third party, which requires approval via a procurement process.

There are a few actions you may need to take to access resources, such as:

- following existing standard operating procedures, processes and systems to obtain approval for resource purchasing
- working with specialist teams such as human resources to hire staff (whether they are existing internal employees or new external staff)
- working with other managers to negotiate borrowing equipment, using facilities or using other resources at specific times during the project
- developing new processes and systems that allow you to access resources
- finding out the availability of resources as well as any potential delays in accessing resources from other teams, managers or external organisations
- researching the cost of individual resources and keeping a record of anticipated costs and the assumptions or information used to estimate them.

Example

Time-limited resources

Before commencing a project to build a pergola for a council park, the project manager, Suri, is told that it has to be finished within two weeks as the mayor is scheduled to open the park and the media have already been notified. She seeks a quote from Kumar, the contractor, to complete this project on time and within the allocated budget.

This presents Kumar with a time-limited situation where resources and work must be planned around this constraint.

On a project planning spreadsheet, he enters the fixed duration of 14 days (he intends to work through the weekends). He estimates it will take 120 hours to build the pergola (this is his work figure, determined by experience). This gives him a resource figure of just over 8.5. This equates to one full-time tradesperson working an 8.5-hour workday.

He is then able to provide an accurate quote to Suri for the project to be completed on time.

Practice Task 5

Question 1

Draw a line to match each type of project resource to its definition.

» People

» Technology and information

» Raw materials

» Working capital

» Plant and equipment

» Materials that are used when working on a project that involves developing, testing or otherwise working with products your organisation produces

» The cost of resources that is calculated to determine the costs of the entire project

» Technological issues involving data and systems integration, security, storage and input/output devices

» Equipment, machinery, power sources, plant, buildings and vehicles

» The people needed to carry out the operations of the project. They may be assigned to the project from other roles in the organisation or hired only to work on the project

Question 2

List two considerations to keep in mind when identifying project resources.

Question 3

What are three actions that may be required when accessing resources?

Summary

- A project is a temporary task or workflow that is undertaken to create a new product, service or result. Project management means understanding what you and your team have to do, by when, how and why you are doing it.
- Project parameters include project deliverables, inclusions, exclusions, project team structure, assumptions, constraints, risks, specifications, costs and timings.
- The project scope refers to the extent of the project and identifying all relevant information that may be needed to understand the project. To understand the scope of the project, you need to access a range of reliable documents, also known as 'project initiation documentation'.
- Project management teams need to be aware of their roles and responsibilities under relevant laws, codes and regulations.
- Project stakeholders are people or groups who have an interest or a stake in a project and its outcomes or who may be impacted by the initiatives of the project.
- The project planning phase must include thorough consultation with project stakeholders to ensure the project is clearly defined, including all possible issues that may arise.
- Project reports are distributed to project stakeholders throughout the project implementation phases to keep them informed of progress, issues and key achievements.
- Knowing how a project fits in with organisational goals as well as with other projects helps maintain perspective when negotiating for resources or funding.
- Project resources are anything that project teams need in order to achieve the objectives of the project and include human, physical and financial resources.
- Resource availability must be confirmed using project documentation and consultation with key stakeholders.

Learning Checkpoint 1
Establish project parameters

Part A

1. What are three examples of quality outcomes that need to be clarified when planning for a project?

2. Identify three common project stakeholders and briefly explain their main responsibilities.

3. Which of the following are types of laws that must be complied with when managing a project? Tick all that apply.

    ◯   Customer complaints handling acts

    ◯   Codes of practice and ethical principles

    ◯   Work health and safety acts

    ◯   Bank guarantee acts

    ◯   Privacy laws

4. Describe why it is important to define the goals, objectives, mission and operations of an organisation when planning for a new project. Justify your response.

Part B

Read the case study, then answer the questions that follow.

Case study

Alexis is the production manager at Red, a magazine publishing company. Red publishes 10 different magazines, some quarterly, and some monthly.

Alexis attends a meeting with Nick, the managing director, who informs her that Red has outgrown its original offices and is moving to a new location that is more appropriate to the company's needs. The new office will be available in eight weeks' time and he tells Alexis he would like her to be on the project management team for the move, along with two other managers and Meg, who is the accountant. Alexis will be the project sponsor and the key authority for approvals to the project plan and budget.

Nick gives Alexis the address of the new office, a floor plan and a draft budget Meg has prepared. Meg has made a few notes and sourced a few prices for items she believes will be the most expensive, such as the office fit-out. There is a budget of $120,000 to cover moving costs, office fit-out, additional IT hardware, new stationery and the costs of communicating Red's new address via a mailout to clients and suppliers. Alexis notes that some of Meg's indicative costs are very rough and need to be researched thoroughly before the project budget can be finalised.

Nick wants Alexis to ensure the move takes place with minimal disruption to employees, suppliers and customers.

1. Explain how Alexis will identify and understand the scope and parameters of the project she has been assigned. In your response, explain the consultation processes and documentation she will need to source.

2. What are two suitable methods of communication Alexis could use to seek clarification from Nick on project issues? Explain why you have chosen these methods.

3. Describe three possible reports that Nick will be looking for from Alexis during the course of the project.

4. What are four ways Alexis can identify the type and availability of resources required for the project?

Topic 2 | Develop the project plan

2A   Develop a risk management plan

2B   Develop the budget and schedule

2C   Consult team members

2D   Use project management tools

2E   Develop and finalise the project plan

2A Develop a risk management plan

Risk management is central to effective project management performance and a vital ingredient in achieving positive results in quality, profit and customer satisfaction.

The systematic management of risk refers to the principles and methods that help identify, assess, treat, monitor and review a project's risk. In simple terms, it means the planned activities needed to effectively manage risk and reduce its impacts on the project objectives.

A risk management plan is an essential part of project risk planning. Here are some stages associated with formulating a risk management plan.

Identify risks	Identifying possible risks to the project's success
Analyse and evaluate risks	Defining risks in terms of potential impact (consequence) and likelihood (probability) and assigning a ranking to each risk
Manage risks	Developing contingency plans that detail how each risk will be prevented and/or controlled
Actions and monitoring	Acting on plans and monitoring outcomes

Identifying project risks

The term 'risk' is described by the Australian Standard/New Zealand Standard International Standards Organisation as being the 'effect of uncertainty on (business) objectives'.

A risk can be any internal, external, tangible or intangible problem that may disrupt or enhance the flow of business. An effect is any deviation from the expected or intended results and may be positive or negative. Uncertainty means the lack of certainty, understanding or knowledge of an event.

Risk is influenced by potential events and consequences.

One way of managing the challenge of identifying risks is by sorting risks into four groups, as outlined below:

Organisational risks
Organisational risks are events that affect the organisation as a whole and may therefore impact on the project. Changes to the environment the organisation operates in can result in the project being less effective or less relevant than hoped. For example, market needs may vary, new regulations may be enforced or new competitors may emerge. Many of these issues are beyond the project manager's scope, but the project can be adapted in response to these risks occurring if they are identified early.

Project risks
Project risks are possible problems that can affect the whole project. These include external parties failing to provide services on time or to standard; funding issues; inefficient resource allocation; and the level of sponsor support.

Task risks
Task risks are problems that may arise in the context of one project task. For example, if one task in a project is to proof read a document, the risks associated with this task could be that the proof reader does not identify all of the errors.

Work health and safety (WHS) risks
One major area of risk all project managers should be aware of is the WHS requirements of project team members, stakeholders and external groups such as suppliers and contractors. There are strict regulations governing safety in work environments. These include: ▪ a duty of care to ensure a safe and healthy environment for all workers and visitors ▪ making sure people are adequately trained in the equipment they operate or use. It is the manager's responsibility to foster an environment of safety and to ensure workers are aware of their responsibility to report unsafe work practices or hazards.

Risk identification tools

Project risks can be identified using a combination of stakeholder consultation, analysis and review.

There are many different types of tools and methods available to identify your project's risk. These tools should aim at the source, based on the risk context.

SWOT analysis	• SWOT tools enable project managers to scan their internal and external environment to analyse the positive and negative risks. • SWOT stands for strengths, weaknesses, opportunities and threats. • 'Strengths' and 'weaknesses' are internal to an organisation's environment. • 'Opportunities' and 'threats', on the other hand, involve assessing the organisation's external environment for any opportunities and threats it poses.
PEST analysis	• PEST is an acronym that describes the four major elements of the external environment – or 'macro-environment' – that impact on an organisation. • PEST stands for the political, economic, sociocultural and technological forces that are out of the control of the business. • PEST is also used when conducting a risk assessment.
Competitor analysis	• This is a formal review of the key competitors in the industry, their strengths and weaknesses, and how they threaten and present opportunities to your project.
Cost–benefit analysis	• This is a detailed analysis of the financial inputs and the associated benefits for the monies invested.
Feasibility studies	• A range of feasibility studies can be conducted to determine the viability of a project and its impacts on the organisation (positive and negative). • The process will usually include estimating start-up and working capital requirements, forecasting a return on investment and estimating profitability.
Consultation	• Consultation means meeting with key people inside and outside your business who have a firm understanding of the project and its associated risks. • These people may include the risk manager, WHS manager, project sponsor, project administrator, program manager, subject matter experts and environmental officers.
Cause-and-effect diagram	• A cause-and-effect, Fishbone or Ishikawa diagram is a way of identifying all the possible causes related to a problem. In many situations, an event can be produced by multiple causes and multiple combinations of causes. • These are mapped in a diagrammatic view to show project team members the range of risks and their sources.

Delphi technique	
	• This is a qualitative forecasting process whereby a panel of experts are invited to provide their input and expertise on a range of risk topics and questions.
	• The process is run by a facilitator, who poses a series of questions using a pre-determined questionnaire to each panel member.
	• After each round of questioning, the facilitator provides the panel members with an anonymous summary of the panel's total responses as well as the reasoning behind the forecasts.
	• The panel members are then given an opportunity to revise their responses based on the general consensus and input of other panel members.
	• After the prescribed number of rounds (up to three rounds) have been completed, the facilitator analyses the data to develop mean and median scores of the revised responses.

Analysing the possible impact of risks

Every risk that has been identified must be analysed to determine its possible impact on project objectives.

A risk analysis should consider the range of potential consequences and how likely those consequences are to occur. The consequence and likelihood are combined to produce an estimated level of risk

To identify the impact of risks, develop a ranking system that allows you to categorise the risks you have identified into meaningful groups based on the likelihood of them happening. For example, you may determine that there are three levels of risk, as shown in the following table:

Degree	Level	Likelihood
High	1	Very likely to happen
Medium	2	May happen
Low	3	Unlikely to happen

Evaluating the possible impact of risks

Risk evaluation follows the analysis stage. It refers to comparing estimated levels of risk against the pre-established criteria.

Risk evaluation enables risks to be ranked to identify the risk management priorities. If the levels of risk established are low, risks may fall into an acceptable category and treatment may not be required. If the risks are evaluated as being high, they need to be addressed immediately.

A sample risk evaluation tool is provided below.

Degree	Level	Impact of risk
High	1	Major problems and possible failure of the project
Medium	2	Problems that would put the project behind schedule
Low	3	Problems that are easily overcome

Example

Risk matrix

Dina needs more cabinets in her office and has ordered them through a supplier. However, the supplier may be unable to deliver the cabinets by the required time.

A risk matrix shows that the supplier not providing the cabinets on time would constitute a major problem. The chances of this happening are fairly high, so Dina should plan for an extra day or so to cover any possible delay in delivery.

A standard risk management strategy is to include a penalty clause in the contract that places financial accountability on suppliers to deliver on time.

Here is a risk matrix for an example about installing new cabinets in Dina's office.

Risk	Likelihood of occurring	Impact
Supplier does not provide goods on time	2	1
Quotations are not detailed enough	2	2
Project staff member does not have skills to execute tasks effectively	3	1
Sign-off not given by manager on chosen supplier	3	3

Managing risks

Managing risks means providing a method of monitoring and controlling each identified risk.

The term 'risk control' is used in risk management to explain how risks need to be managed, to prevent unnecessary negative impacts to a business's objectives. Risk controls modify the risk by reducing the likelihood of negative risks and/or reducing the consequence of negative risks should they occur. In addition, treatments aim to address the root cause of the risk.

A project management team can accept and monitor low priority risks. For higher risks, it is important to develop and implement a contingency management plan, which includes consideration of specific policies and procedures covering such issues as avoidance/reduction/transfer of risk, insurance cover, business continuity and disaster recovery planning.

Here are four steps you can take to control risk:

1.   Risk elimination
Where risks with a negative impact have been identified, they must be eliminated or avoided altogether, where possible. This can often be achieved for internal risks, such as human resource, financial or process related risks. Examples of elimination are cancelling a vendor contract, disposing of a defective material or terminating a project team member's employment contract.

2.   Risk mitigation
This is any action taken to alleviate the severity and consequences of a risk. Examples may include increased training, human resources or finance, delayed deployment of staff or fast-tracking a scheduled task.

3.   Risk reduction
Risk reduction is about reducing the likelihood and/or consequences of a risk occurring. Questions to ask when considering the validity of this risk control strategy include: Can the likelihood of the risk occurring be reduced (through preventative maintenance, quality assurance and management, change in the company's systems and processes)? Can the consequences of the event be reduced (through contingency planning, minimising exposure to sources of risk or separation/relocation of an activity and resources)?

4.   Risk transfer
By having a contract, insurance or partnership/joint venture you can move the responsibility to another party or share the risk.

Work health and safety risks

A work health and safety hazard is any source of danger that can harm a person's health, safety or wellbeing. For every hazard, there are subsequent risks if a person comes into contact with the hazard source.

The model work health and safety laws state that all hazards must be addressed and controlled, so far as is reasonably practicable, in consultation with workers. The legislation states that the best way to control a hazard is to eliminate it where possible. If this is not practicable, it must be minimised to ensure the health and safety of any person who comes into contact with the hazard.

This legal obligation has led to the development of the 'Hierarchy of controls', which starts with the elimination of the hazard as the preferred solution. Controls should be selected from as high up the hierarchy table as is reasonably practical to maximise effectiveness. In many cases, a combination of controls will be necessary to reduce the level of risk.

The following table illustrates the hierarchy of controls.

HIGHEST — Level of health and safety protection — LOWEST

MOST — Reliability of control measures — LEAST

Level 1
Eliminate the hazards

Level 2
Substitute the hazard with something safer
Isolate the hazard from people
Reduce the risk through engineering controls

Level 3
Reduce exposure to the hazard using administrative actions
Use personal protective equipment
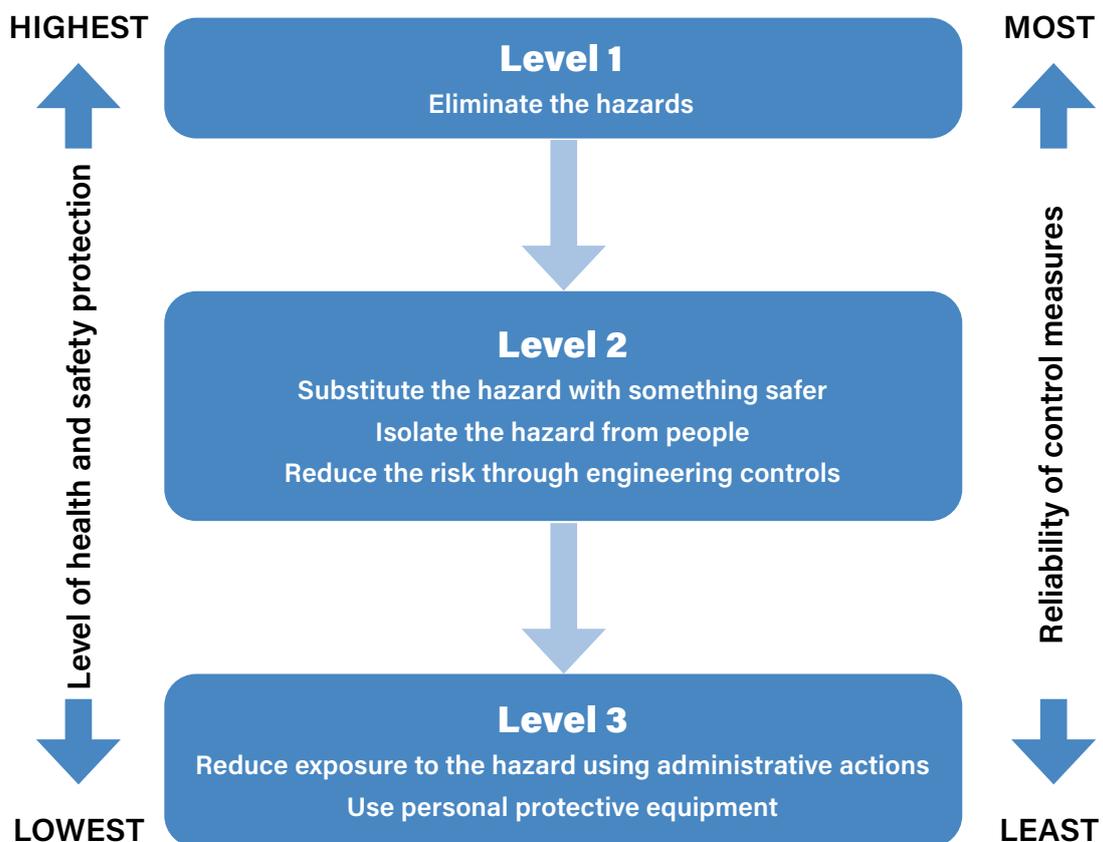
Source: How to Manage Work Health and Safety Risks Code of Practice, Safe Work Australia

The ALARP principle

A widely used principle for determining criteria for acceptable and residual risks is the ALARP principle. ALARP stands for 'as low as reasonably practicable'.

ALARP is a risk management term that means risks should aim to be controlled to ensure the impacts on a project are minimised.

Under the ALARP principle, risks that are identified should be actioned according to:

- likelihood of the risk resulting in harm to the project
- degree of harm that may be caused
- any existing knowledge about the risks
- availability of resources to control the risk
- cost versus benefit and whether the cost associated with controlling the risk is grossly disproportionate to the outcomes achieved
- the level of influence and control over the risk.

Monitoring and reviewing risks

The overall aim of monitoring and reporting on a risk management system is to identify, address and reduce deficiencies in risk treatment and process performance.

The project management team must monitor and review the performance of the risk management system and any changes to risk levels that might affect it. This includes before and during the implementation phase of the project.

Monitoring and review of the risk management system should include:

- ensuring that risk controls and treatments are effective in both design and operation
- looking at improvements in the overall risk management system
- analysing lessons learnt from past events
- identifying changes in the internal or external context
- identifying emerging risks.

Example

Develop a risk management plan

John works for an accounting firm and is currently planning for a project that involves setting up a new learning management system (LMS) for the workforce. It will involve phasing out an older LMS and integrating the new system to allow all staff to complete a range of learning modules, including inductions for new team members.

A number of risks have been identified with this task and John is putting together his risk management plan using the following template.

Risk management overview
Reasons for the selection of treatment options, including the expected benefits, risk management objectives, underpinning principles, a summary of the framework, risk context and the risk criteria used to assess the risks

Risk identification and assessment strategy
A description of the methods, tools and techniques used to identify, assess and document risks

Risk treatment strategy
A high-level action plan detailing the specific treatments that need to be actioned to successfully address the identified risks. This plan explains the types of risk (based on the agreed classification system), risk ratings, risk treatments, residual risk and responsible persons

Risk treatment implementation
Risk treatment implementation involves three elements: • *resource acquisition plan*: allocation of sufficient time, money, physical equipment and information to support the risk treatment plan   • *task schedule*: based on the proposed actions, a time line of events should be developed, with a deadline date that the plan will work towards   • *consultation and communication*: a consultation and communication strategy that explains who needs to be consulted/communicated with, what needs to be communicated and how information will be disseminated and fed back to duty holders and workers affected by the risk management activities

Reporting and monitoring requirements
A strategy detailing the project stakeholders who need information about risk management activities, their key information requirements, frequency of reports and how they will be distributed. This must also describe the positive performance and outcome indicators that will be used to track and measure performance of risk management activities

Practice Task 6

Question 1

Draw a line to match each term about risk identification tools to its definition.

» Consultation

» SWOT analysis

» Delphi technique

» Cost–benefit analysis

» A panel of experts meet to provide their input and expertise on a range of risk topics and questions

» A detailed analysis of the financial inputs and the associated benefits for the monies invested

» A tool that enables project teams to determine the strengths, weaknesses, opportunities and threats to a project

» Meeting with key people inside and outside your business who have a firm understanding of the project and its associated risks

Question 2

Which of the following are examples of work health and safety (WHS) risks? Tick all that apply.

◯ Harm caused to local fauna

◯ Fatalities involving workers and contractors

◯ Workers falling ill due to exposure to hazardous substances

◯ Workers getting sick as a result of poor health

◯ Impacts to the surrounding environment

Question 3

What are two methods for managing the impact of risks to a project?

2B Develop the budget and schedule

A budget is a financial plan that translates cost estimations and project objectives into measurable outcomes. A schedule determines the start and end dates of the project.

Budgets are used as a method of planning and controlling expenditure throughout the project. They provide organised estimates of revenue, expenditure, staffing levels and equipment needs, with departmental breakdowns for different time periods.

Creating an effective budget involves researching and accounting for the total costs associated with every task and activity identified in the project work breakdown to be completed on time and to an appropriate standard.

A budget is a financial plan used for the following purposes:

- keeping track of revenue vs expenditure
- directing activities
- using finances, resources and time efficiently
- setting benchmarks for monitoring performance
- ensuring accountability by managers and departments
- as a communication tool for management to describe project objectives and ensure responsibility and accountability for the project's allocated funds.

Budget types

The goal should be to keep project costs to a minimum while setting and achieving realistic revenue figures so that the project's income exceeds its expenditure.

In many cases, a project will not achieve any sales or revenue until after the deliverable is handed over to the client.

Various forms of budget are used in project management, each with varying objectives, information and time frames. Some are short term, covering one month, while others encompass the entire project period.

You will need to consult with your project sponsor, specialist project manager, accountant or finance manager about what type of budget you need to set for your project.

The main types of budget used in project management are:

- **cash budget:** an estimation of the cash inflows and outflows
- **expense budget:** an estimation of the revenue and expenses
- **budgeted balance sheet:** a schedule containing all of the items found in a normal balance sheet, except that it is a projection of what the balance sheet will look like during future budget periods. It is useful for testing whether the projected financial position of a project appears to be reasonable.

Developing a budget

Budgets do not need to be complex. They simply need to outline the estimated expenses and revenue (if applicable), the intended profit the business would like to achieve and the amount of money that is to be allocated to spending.

There are two main budget-setting processes used in project cost management:

- **top-down budgeting:** management establishes an overall budget for all project activities, which is then divided into the different project phases or deliverables across the project. The relevant manager for each phase, deliverable or task then continues to break down the budgets for their cost area
- **bottom-up budgeting:** management first defines the specific costs for each activity, which are then aggregated to give the total project cost.

Project cost categories

Project costs can be grouped into different categories to assist in understanding the types of expenses that need to be covered in a budget.

A range of cost types may be included in a project budget. These are described below:

Direct costs	Direct costs are costs that occur as a direct result of delivering a product or service and are often referred to as operational costs in accounting.
	Direct costs can include:
	- labour, including wages, WorkCover insurance, superannuation and leave entitlements
	- materials
	- stock
	- plant
	- equipment
	- travel or transport costs.

Indirect costs	Indirect costs are often referred to as capital/overhead costs. These come from areas that are not directly involved in the production process or service delivery area. Indirect costs can include: • administration or senior management costs • electricity • rent • stationery • phone • internet.
Fixed costs	Fixed costs are costs that do not change; that is, they do not vary in the short to medium term and must be paid irrespective of the level of sales. Fixed costs can include: • building rental • employees on salary • membership payments • car payments • lease/equipment payments • loan repayments.
Variable costs	Variable costs are costs that fluctuate depending on your usage (and sales). Variable costs can include: • the cost of the products you sell • transportation of products • fuel • packaging • manufacturing costs • marketing • labour • equipment hire • interest on variable rate loans.
Capital costs	Capital costs are one-time purchase or setup costs for major purchase items, after which there will be recurring fixed or variable costs. Capital costs can include: • laptops and other IT equipment • machinery and tools • communications systems and equipment • company vehicles • office furniture • property and land • licences.

Recording budgets

An effective tool for recording budgets is a simple spreadsheet or project software tool that enables you to identify costs at different levels of detail, for each task, by category.

Writing up a project budget doesn't need to be complex and can require only basic computing skills with a knowledge of spreadsheet applications. However, you may find that other project managers in your organisation have already developed such tools or that your accounts department has suggestions or ideas that can help you create a workable tool. Follow your organisation's policies, procedures and templates to record project budgets and costs.

Example

Write a budget

Here is a project manager's budget where costs have been determined and allocated for personnel, materials, production and distribution:

Budget					
Personnel	Cost per hour ($)	Number of hours	Total ($)	Actual $	Variance $
Project manager	60	100	6,000		
Marketing officer	35	20	700		
Admin. assistant	30	30	900		
Designer/artwork	80	10	800		
Writer	45	24	1,080		
Desktop formatter	30	21	630		
Editor/proof reader	45	8	360		
Manager	80	2	160		
			10,630		
Materials	Cost per item ($)	Number of items	Total ($)		
Envelopes	0.50	4,000	2,000		
Paper	0.04	4,000	160		
Overheads			300		
			2,460		
Production			Total ($)		
Copying			1,800		
Courier			25		
			1,825		
Distribution			Total ($)		
Postage	0.50	4,000	2,000		
			2,000		
		Total budget			
		Personnel	10,630		
		Materials	2,460		
		Production	1,825		
		Distribution	2,000		
		Total	**16,915**		

Planning the project schedule

Every project has a pre-determined fixed start and end date with varying degrees of flexibility.

A project schedule is determined by the overall length of time of the project and the set deadline for completion. Project schedules must be planned so they can be monitored throughout the implementation phase and completed on time or ahead of schedule.

To determine a suitable project schedule, you will need to develop a work breakdown structure (WBS) that defines the specific goals, tasks and activities required to produce the project deliverables.

The WBS provides the project manager and their team with the following advantages:

- a means of communicating the work and processes involved to execute the project
- a high-level structural view into the project
- an essential tool for planning and implementing the project
- a basis for building an effective project schedule.

Building the WBS

To develop a WBS you will need to begin at the top with the highest level (objectives) and work downwards to the lowest level (micro-tasks).

In a WBS, the highest level of structure represents less detail and increases for each descending level – much like a hierarchy chart.

Any work that is not represented in the WBS should be considered as exclusions (out-of-scope).

The general process of building a WBS is as follows:

Level 1 – Summarise the project objective in the top level of the hierarchy tree.

Level 2 – Identify a suitable method of deconstructing the project scope according to key phases, products, deliverables or principal work tasks where there is one product or deliverable.

Level 3 – In each element, specify the next level of tasks with increasing detail.

Level 4 – If required, break down each Level 3 task again with more specific details of what is needed.

Estimating task duration and effort

Once you have established the tasks and activities from the WBS that need to be placed into the schedule, you will need to estimate the duration and resource effort required for each task.

When estimating the duration and resource effort required of tasks, the following elements must be taken into consideration:

- availability of resources and supplies
- assumptions and risks as noted in the scope management plan
- project start and end dates
- key milestones that may have already been set
- allowance for variations to commencement and end dates
- regulations and standards governing resource performance.

Sequencing tasks

Task sequencing involves identifying dependencies and placing them into a logical flow and order.

Since task sequencing and dependencies (tasks that have a direct relationship with or impact on other tasks/activities) are closely related, your ability to sequence your tasks accurately will be based on how well you identify the task dependencies.

In project management, there are three types of dependencies you will need to consider before building your schedule.

1. Mandatory dependencies
Tasks that are logically inherent in the project and cannot start until the previous task is finished; for example, testing cannot be conducted without the system first being installed
2. Discretionary dependencies
Tasks that are defined by the project team as being 'best practice' or 'preferred logic' because there are several options as to where they can be scheduled; for example, selecting the trainer to deliver the training to the user group
3. External dependencies
Tasks that involve a relationship between project and non-project tasks or factors; for example, factoring in supplier lead times for the delivery of a new software package

Using a Gantt chart

Taking its name from early project management innovator Henry L. Gantt, the basic Gantt chart is the most popular method of illustrating the project schedule.

Gantt charts are mainly concerned with two elements:

1. To visualise the temporal relation of individual processes for all project members

2. To allow the project manager to manage and manipulate the dates in the individual project phases

Gantt charts show the start and finish dates of each milestone or deliverable. They can also show the dependency of tasks to one another in the form of a horizontal bar schedule displaying work periods, activity start, duration and completion.

To build an effective Gantt chart:

- record the WBS and task analysis information as a list down the left side of the chart ensuring you can identify and record the tasks required, including their duration and their predecessors
- determine an appropriate work period / time scale for your project
- beginning with the first task, draw each task on the Gantt chart under the time line as a bar indicating the length of time of the task's duration
- draw each subsequent bar on its own horizontal line in the correct position on the timeline based on its dependencies and relationships
- if highlighting relationships between tasks, allow sufficient space between bars (top and bottom) for the relationships line to be drawn. Draw your links between tasks using arrowheads, ensuring that all tasks are connected. Avoid crossing lines where possible
- work backwards to check for errors.

Example

Gantt chart for planning for a conference

Confirm conference planning committee

Establish purpose and outcomes

Research and obtain quotes on venue hire

Confirm guest speakers

Develop marketing materials

Send invitations to target group

Confirm conference costs and budget

Activities to be completed

Start Planned Duration   **Business days**
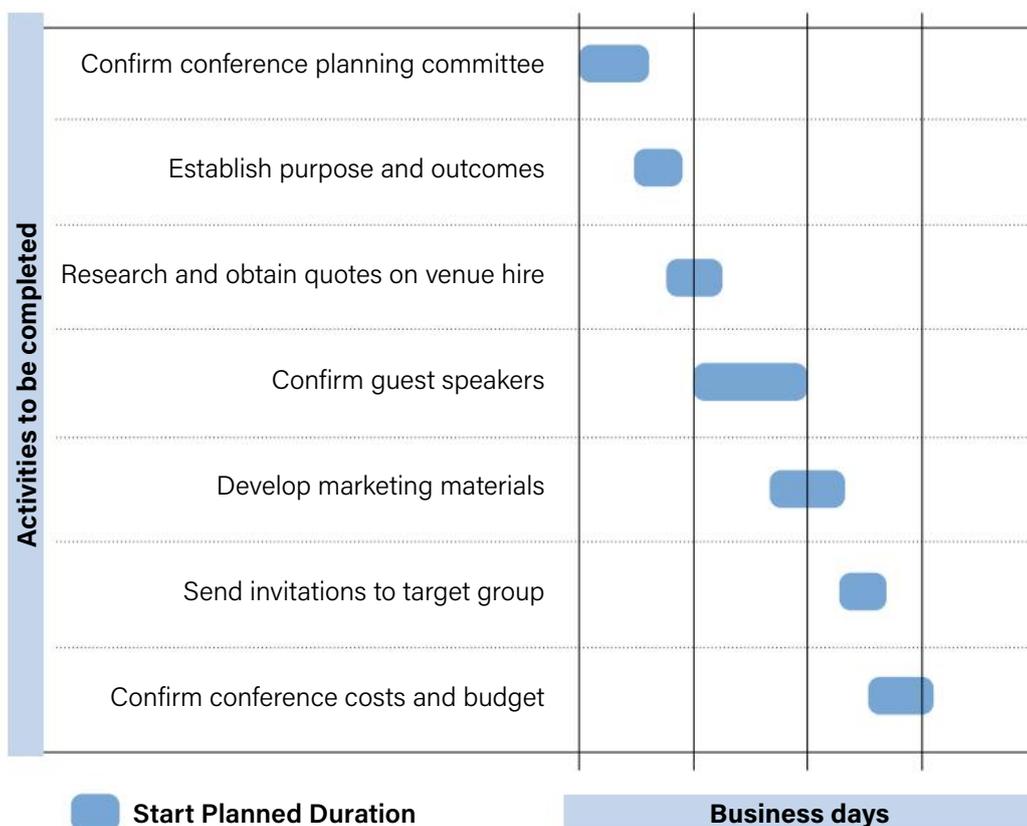
Seeking approval for the budget and schedule

As with all project management plans, the budget and project schedule must pass a formal approval process before they can be implemented.

Every project has a management structure to maintain control of it and provide a consistent approval process. Budgets and schedules may be approved by the project sponsor, senior management, client representative or an internal authority such as the project manager (usually for small projects).

To present information for approval, ensure you have all the relevant costs and time frames set out in a logical and readable form, along with a completed copy of the rest of your project plan. This enables the approving authority to make an educated decision.

Practice Task 7

Question 1

What are three tasks you need to carry out to create an effective project budget?
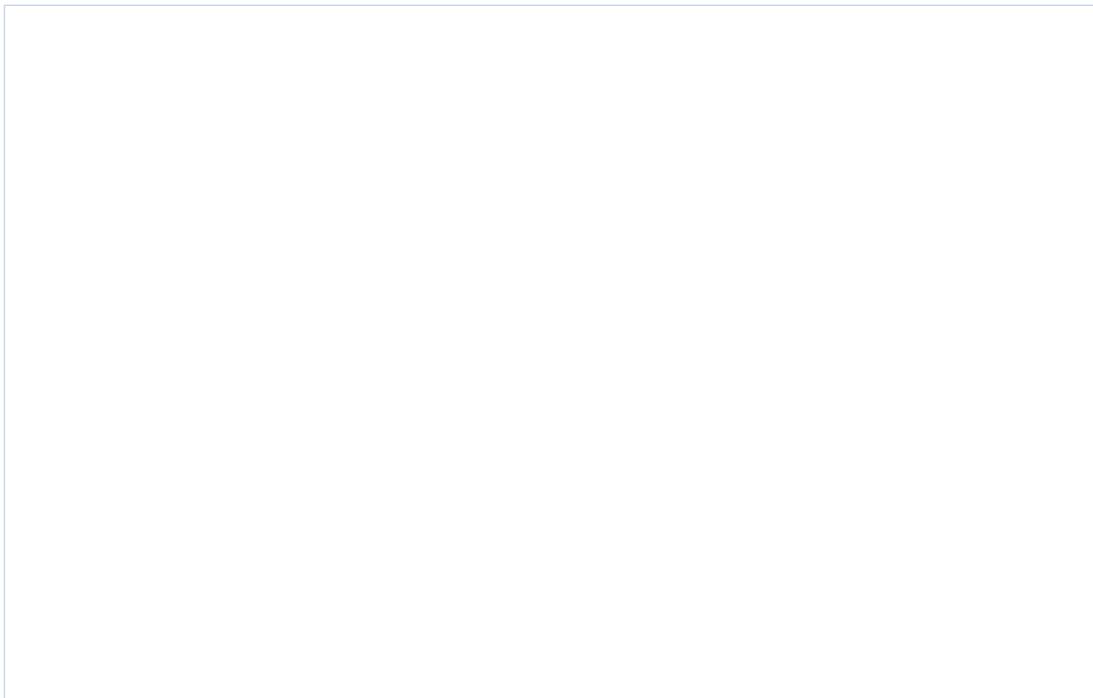
Question 2

Number the steps from 1 to 6 in the order you would follow to develop a Gantt chart.

◯ If highlighting relationships between tasks, allow sufficient space between bars (top and bottom) for the relationships line to be drawn. Draw your links between tasks using arrowheads ensuring that all tasks are connected.

◯ Draw each subsequent bar on its own horizontal line in the correct position on the time line based on its dependencies and relationships.

◯ Determine an appropriate work period / time scale for your project.

◯ Record the WBS and task analysis information as a list down the left side of the chart.

◯ Work backwards to check for errors.

◯ Beginning with the first task, draw each task on the Gantt chart under the time line as a bar indicating the length of time of the task's duration.

Question 3

Explain how you would seek approval for a project budget and schedule.

2C Consult team members

Consultation is defined as a two-way process of ongoing communication between the key parties involved in project management activities.

Project plans need to be developed in consultation with project team members. This ensures you gain the benefits of their knowledge, opinions and experiences.

Relevant project stakeholders must be consulted throughout the planning phase to confirm the requirements for a project. This is to ensure that everything is covered and no activities have been left out of the plan.

As the person in charge of a project or a key part of a large project, you will need to know the different personnel you need to consult with.

Project personnel are generally grouped into either of the following:

- Project team
- Project management team

Managing consultation with your project team

The project team is comprised of a range of people with various skills, knowledge, roles and responsibilities who work at ground level on different tasks of the project.

Project team members have valuable skills, knowledge and experience and must be utilised in the planning phase. These people are not usually involved in high-level decision-making, client communications or project management and planning tasks.

Project team members can include any person with competencies in:

- change management
- quality assurance (QA)
- subject matter expertise
- management and supervision
- information technology
- equipment operation
- systems development
- project office administration
- procurement/purchasing
- training
- project coordination
- financial management
- scheduling
- communications
- customer relationship management
- contract management.

Consulting with the project management team

The project management team is a subset of the project team and is responsible for the management and leadership aspects of the project. These people form the core leadership team for the project.

Members of the project management team can include the project sponsor, project manager, program manager, steering committee and project controller. Responsibilities of the project management team include initiating, planning, executing, monitoring, controlling and closing the various stages of the project.

Managing and leading a project team also involves influencing, training and managing performance of the personnel.

When consulting with the project management team, you should aim to uncover the answers to the following questions.

Purpose of the project	- How is it aligned with overall business objectives? - What specific outcomes are expected? - What will the team need to address and successfully execute to achieve these outcomes?
Time frames/ resources	- Discuss the resources available to the team: people, budget, access to specialist help, etc. - Gather information from team members regarding their resource needs.
Team members	- What experience and skills do they offer? - How can you best use these skills during the planning and implementation phases of the project? - What can each individual contribute to the team?
Working together	- Will you develop project groups? - Will individuals be responsible for specific tasks? - How will tasks be delegated?
Protocols/ standards	What standards of group behaviour or ground rules will be appropriate?
Communication	How can the project manager be sure everyone gets an equal chance to participate and be involved?
Arrangements	How will team input into the planning phase be captured and included?
Cultural awareness	What measures must you instigate to ensure language and other cultural barriers are managed?

Ensuring effective consultation

Consultation is the process of engaging project team members, openly discussing information and exchanging opinions, concerns and insights.

The goal of consultation is to ensure that the needs of other project team members who are directly involved in your project are considered in the planning process.

Consultation is an integral part of the process of planning for a project, identifying conflicts and issues and developing contingency strategies to avoid problems. It provides you and your team with an excellent opportunity to share concerns and views about the decisions to be made.

Consultation methods

The methods you use to communicate and consult with other project managers and stakeholders must be appropriate for the scale and nature of the project, the structure of the project and management teams, and the sensitivity of the information concerned.

Communication strategies should consider who needs the information, what is involved, how much content needs to be communicated and the best method for providing the information in the most efficient manner possible.

Methods used to communicate project outcomes and other key information can include:

- team meetings
- emails
- telephone conversations
- teleconferences
- webinars
- one-on-one discussions
- briefs
- internal memos.

> **Example**

Choose a project team

Michael is a manager at a large warehouse for a national chain of supermarkets and variety stores. From time to time he is assigned to different projects, which means he is in charge of different groups of people, some of whom he has never worked with before.

He says, 'Once I get an idea of what the project is all about, I need to choose my project team. This means nominating people I think would be good for the project. However, HR also assigns people to the project who I don't know anything about'.

'The first thing I do is talk to each person individually after reviewing their file, which is supplied by HR. I find out what they've done before and what they're good at. Afterwards, I allocate each person a role or tasks. When I'm working out the project plan, I might consult with anyone who can help shed some light on different aspects of the plan, based on what I now know about each person's experience.'

'Every time I hold a meeting like this, someone in the team raises a good point, asks a question that gets me thinking or shows me a better way of doing something. These meetings are always worth having, even if they take a bit of time, because they give people an opportunity to ask questions and get the team together to think about the work that needs to be done. This always ends up making the plan better, which results in a better project.'

Practice Task 8

Question 1

Draw a line to match each person to their correct group.

» Project steering committee	» Project team members
» Project manager	» Project team members
» Labourer	» Project team members
» Project sponsor	» Project management team members
» Skilled technicians	» Project management team members
» Bookkeeper	» Project management team members

Question 2

Which one of the following statements best describes the consultation process?

○ A one-way process of giving instructions and information and confirming understanding

○ A two-way process of ongoing communication between the key parties involved in project management activities

○ Use of verbal and non-verbal communication to provide quality information to others, in a way they can understand

○ Asking for input on issues in the project and taking on board all feedback and suggestions

Question 3

List five key pieces of information you need to confirm when consulting with project management team members.

2D Use project management tools

Project managers use a wide range of tools to assist them in the project planning and management process.

Just as a tradesperson relies on a set of tools to effectively and efficiently complete a construction project, a person working on a project also has a unique range of tools that can be used to achieve different outcomes and benefits.

Having a variety of tools to choose from, and selecting the appropriate ones to use, can make the project management experience a more organised, satisfying and successful one for everyone involved.

Project management tools can include:

- project management software
- Gantt and bar charts
- critical path method (CPM)
- program evaluation and review technique (PERT) charts
- life cycle cost analysis
- spreadsheets.

Project management software

Project management software can greatly assist project managers in planning, communicating and reporting on aspects of a project, as well as providing a common point of reference for team members.

A range of intelligent computer software programs can be used for storing immense amounts of data to achieve a wide range of functions.

While project management software is a convenient way to track project-related information, some projects can be run and completed effectively without it.

If you are going to use software tools to plan and implement your project, ensure that:

- you and your team are trained in using the software, or that reference books are available to enable you to access and use the software effectively
- you can install project management software onto your computer system at work
- you have the appropriate support and approval from your IT support team to use the software
- you have factored the cost of software into the expenses for your project.

Software applications such as shared spreadsheets and documents can be used to collate, manage and process data and information, including costings, schedules, reports and critical updates.

Other project management software includes applications such as Artemis, Microsoft Project, FileMaker Pro and Primavera. Microsoft Project is commonly used for small- to mid-sized projects.

You can also manage projects remotely using Microsoft Project Server or Office Live Workspace. Internet-based storage, input and access removes the need for centrally based offices or servers to store all the relevant project information.

Gantt and bar charts

Gantt charts are used to show the time lines, key tasks, dependencies and progress of a project.

A Gantt chart (named after its developer Henry Gantt) is developed as a horizontal graph or chart. On the 'y' (vertical) axis you list each task in order. On the 'x' (horizontal) axis you list the time frame for the project; for example, Day 1, Day 2, Day 3. Depending on the project, you can list the time in daily, weekly or monthly blocks. You then plot the start and finish time for each task in the appropriate position on the chart. This gives you an illustrated project plan that can be used for reviewing your progress and tracking your performance.

This technique illustrates actions against time and the interaction (or dependencies) between tasks. It involves identifying all tasks to be completed, noting when they can start and determining when they should be finished to complete the project on time.

Critical path method (CPM)

The CPM is a way of ordering tasks according to dependencies and time taken.

The CPM shows you the critical tasks, or key activities, in terms of their impact on the whole project time frame. Developing a critical path analysis also shows you the best way to schedule tasks within the time frame.

To use the CPM, simply arrange all critical tasks in the order they must be completed. You will note that some tasks need to be completed before other tasks can be started (that is, they have dependencies). Once you have identified all the tasks with dependencies, draw a line connecting these tasks.

Sequences	By identifying your critical path, you can identify:
	• the sequence of tasks and timing that are vital to successfully complete the project on time.
Disruptions	By identifying your critical path, you can identify:
	• the activities or tasks that, if disrupted, will have the most impact on your ability to successfully complete the project on time.

Program evaluation review technique (PERT) charts

PERT charts are used to schedule, organise and coordinate tasks in a project.
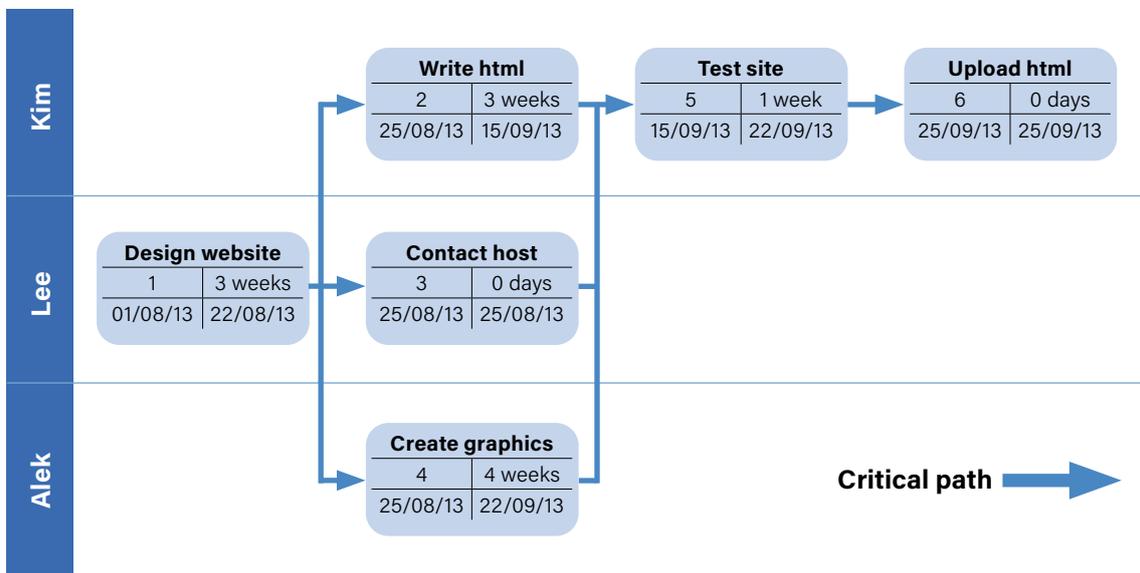
Similar to the CPM, they are more time consuming and complicated to produce than the other tools reviewed so far, and are therefore more suited to long or complex projects.

A PERT chart is a diagram consisting of numbered rectangles that represent events or milestones in the project. These are linked by labelled directional lines (called vectors), which represent tasks in the project. The direction of the arrows on the lines indicates the sequence of tasks, showing the dependencies and highlighting the intended schedule or critical pathway.

Tasks that are not joined by vectors are not dependent on the completion of one to start another and can be undertaken simultaneously. Tasks that must be completed in sequence but do not require resources or deadlines are represented by dotted lines with arrows and are called dummy activities. Numbers noted on the opposite sides of the vectors indicate the time allocated for the task.

Life cycle cost analysis

A life cycle cost analysis is a method of project evaluation where all costs over the life of a project are considered to be important.
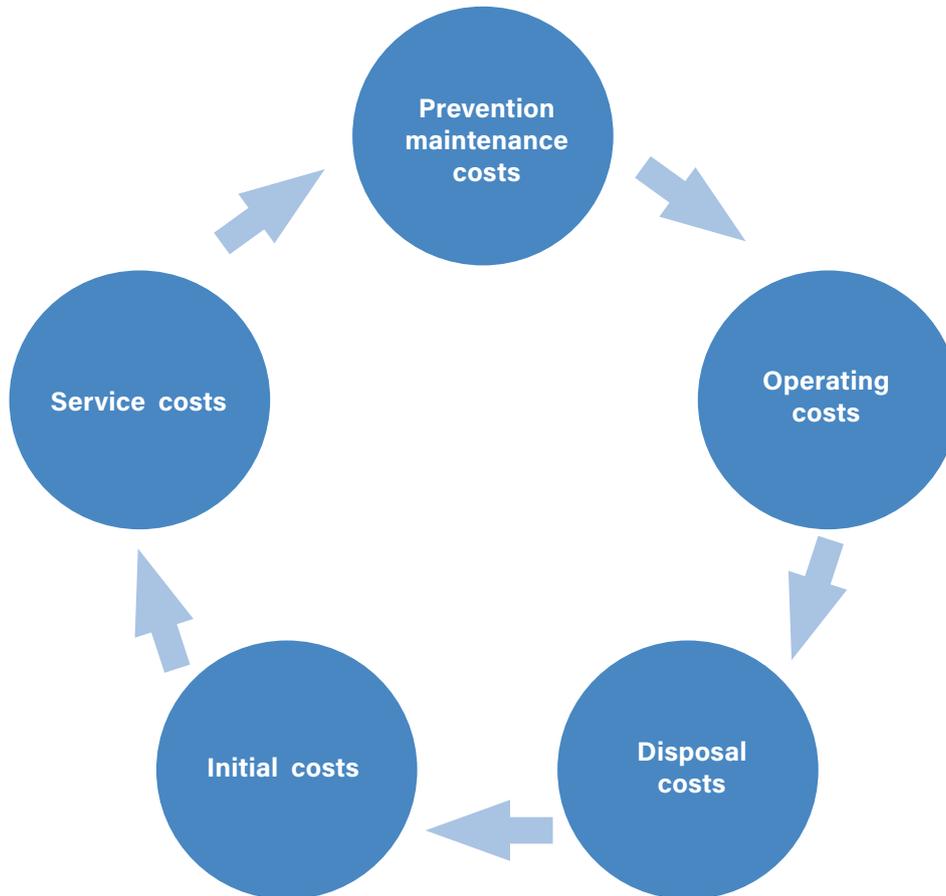
The life cycle cost analysis method involves capturing, recording and computing all expenses associated with the project. The life cycle cost is the total cost of owning, operating, maintaining and eventually disposing of the project over its lifetime, with all costs adjusted or discounted to reflect interest rates throughout this period.

The process involves the project manager working closely with finance specialists who can help monitor the costs of the project and ensure all costs (expected and unexpected, interest on borrowed funds and direct and indirect expenses) are assigned to the project. This way, the true and complete cost of completing the project is known.

Spreadsheets

Spreadsheets are a simple yet invaluable tool in project management, used to collect, collate and represent a range of data about the project.

A simple spreadsheet program can help you with almost every aspect of the project, including allocating resources and budgets, tracking performance, measuring progress and charting schedules.

In comparison, project management software is a more sophisticated application that enables you to comprehensively plan and track the progress of a project, make adjustments when necessary and prepare reports at any stage.

Practice Task 9

Identify and briefly describe three project management tools. Write three sentences about each tool.
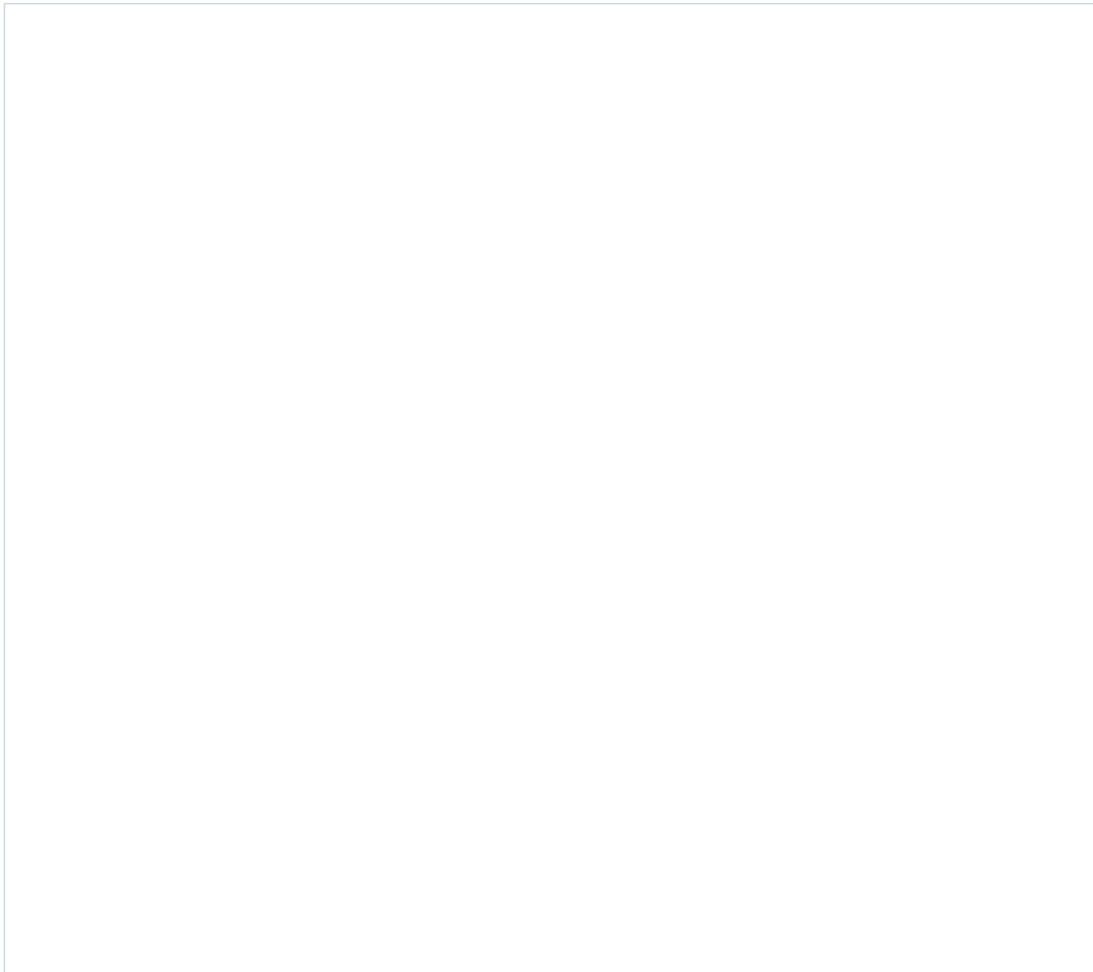
2E Develop and finalise the project plan

A project plan is a tool that aids project managers as they delegate tasks, estimate resources and time frames, follow up on activities that are being completed and report on the project's progress.

Project plans assimilate all of the important information and help project management teams monitor progress across all facets of the project.

Developing a project plan may take some time, but it is time well spent. The project plan should be reviewed or checked by key stakeholders to ensure it includes appropriate time lines, task breakdowns, roles and responsibilities of project team members, a risk-management plan, a project budget and dates of key deliverables.

The plan then needs to be approved or signed off by stakeholders and participants before the project commences.

Benefits of the planning process

Developing an accurate, workable project plan is a fundamental and critical step in managing any project, including meeting requirements for project deliverables and parameters.

A project plan enables managers, stakeholders and other participants in a project to understand exactly what needs to be done and what resources are required to do it. It sets out the strategy for achieving the project deliverables and working within the parameters of the project. It also highlights risks that could affect the implementation or outcomes of the project.

Depending on the scale of the project, plans can range from extremely detailed, lengthy documents to simple lists that are quickly produced. Whatever form a project plan takes, and regardless of its complexity, it must provide a detailed explanation of how the project will be executed.

Here are some of the benefits an effective plan can bring to any project:

- It obliges people to consider the activities and tasks involved in the project and what dependencies exist for each of these.
- It enables scarce resources to be shared, scheduled and allocated.
- Any deviation from goals can be identified and addressed before they present problems.
- It can provide a solid argument for unreasonable requests or deadlines that simply cannot be achieved.

- It can enable you to delegate tasks more effectively and simplify the work involved.
- It keeps project team members focused on their activities and helps them remain motivated and dedicated to the project's goals.
- It communicates detailed information to your sponsor, customers, team members, suppliers and other stakeholders.
- It provides the contextual and background information needed when deadlines are issued, tasks are assigned or requests are made.

Elements to include in a project plan

A properly developed project plan enables you, your team members and project stakeholders to clearly understand the extent of work required to achieve a project's goals.

The core purpose of the project planning phase is to confirm the project's requirements, develop project objectives and develop strategies to effectively execute, plan, control and close the project. The major output from the project planning process group is the formal project management plan.

The project management plan is the over-arching document that encompasses all other subsidiary management plans into one central location, making the job of running the project easier for the manager.

Project summary
Project name, number, manager, sponsor and client
Business case
Justification for the project including issues/opportunities, project objectives and business benefits (outcomes) that the organisation will achieve as a result of completing the project
Objectives and outcomes
Objectives that describe the project's overall intentions. These can be short-, medium- or long-term goals and performance indicators
Scope statement
The definition of a project's scope. This is usually a one-paragraph summary of the project's purpose, activities, deliverables and the client the deliverables will be handed to
Deliverables
The details of the outcome/s such as a tangible object produced as a result of the project that is intended to be delivered to a client at the closure stage

Exclusions
The activities that fall outside of the responsibility of the project team and organisation. These may be the responsibility of the client or another vendor

Team structure
The organisational chart describing the structure, roles and responsibilities of the project management team and project team

Governance
The strategy explaining how good project governance will be achieved, including compliance with internal/external requirements, roles, responsibilities and accountabilities, and reporting requirements of the project management team

Interdependencies and inputs
Information about other internal or external projects in process or planned that have a relationship to this proposed project

Assumptions
The things believed to be true but yet to be tested or confirmed that generally involve a degree of risk. They are used to establish the project environment and also to provide a basis for planning, estimating and risk management

Constraints
The restrictions stopping or limiting the project's progress and options

Risks
The threats that may prevent the project from reaching its objectives and the risk responses that will be implemented to treat and control the risks

Specifications
Details of the required technical, quality, safety and performance standards of the end product for a project, or how the project is to be carried out

Milestones
Overview of the major project milestones, verification details and due dates for completion

Budget
Overview of the allocated funds for the project

Cost management strategy
Methods used to monitor, control and measure financial performance to ensure the budget is achieved

Procurement strategy
The list of preferred suppliers and the methods used to control purchasing activities

Communications strategy
An outline explaining what information needs to be communicated, who needs to know the information, the most effective method for communicating the information and by when the information needs to be communicated

Cost monitoring strategy
The specific performance indicators (target outcomes) that will be used to monitor and measure project performance; data collection methods; and the reporting strategy detailing the types of reports that will be disseminated to project stakeholders throughout the project

Change management strategy
Overview of the process that must be followed to raise and approve changes to the project's scope, budget, schedule and so on. Any requests for variation must follow the correct procedure and pass the authorisation process before they get introduced into the project

Critical success factors
The key imperatives that must be achieved to determine whether the project will be a success; for example, stakeholder/client acceptance, monitoring, reporting, client consultation, technical/quality achievements, budget and schedule adherence

Closure strategy
The project management plan must also stipulate how the project closure phase will be controlled, including closing out legal, financial and contractual obligations and product handover

Approvals
The name and details of the authorising body/person, which is usually the project sponsor

Following organisational policies

When developing project plans, always follow your organisational policies and procedures to ensure the work is completed to the right standards.

It is essential to follow your organisation's policies and procedures in every step of the planning process. You may find that you and those team members who have assisted in creating the plan need to take one or more of these actions:

- Prepare and make a presentation to stakeholders, which may result in reworking or adding detail to sections that stakeholders require.
- Consult specialists in your organisation about project-planning procedures including risk management and resource allocation.
- Attend a panel interview where stakeholders ask you questions about your plan and how it was created.
- Submit completed documents to your sponsor, who then circulates them for approval.
- Attend meetings with individual stakeholders to discuss different aspects of the plan in detail.
- Make yourself available to answer stakeholder queries by telephone, email or in person.
- Provide supporting evidence that shows how you arrived at decisions, assumptions or data outlined in the plan.

Finalising the plan

Before submitting the plan for approval, it must be finalised by consulting with key stakeholders.

Once the project management plan has been completed, consult with your project management team, as well as any subject matter experts, and seek their opinions about the plan.

Ask for feedback on how the plan can be improved, consider the advice they provide, then make any final changes to your plan.

You may also consider presenting a draft plan to the project sponsor and/or client, as they may request changes to the project plan. These changes may need to be negotiated before making the necessary modifications.

Gaining approval for the project plan

Once you have drafted your project management plan, you will need to submit the document to your project authority for formal sign-off.

The project management plan is the most important document in the life of the project. It comprises all of the work completed in the initiation and planning phases and will be used to guide the efforts of the project management team over the remaining stages of the project's life.

Gaining approval for the plan to go ahead may be a quick, one-step process such as a presentation or email, or a lengthy and complex affair consisting of a series of formal meetings, depending on the nature of the project and the protocols and structure of your organisation.

In some cases, the client will also need to view and sign off on the project plan to ensure they are satisfied with the goals and direction of the project, including time frames, quality standards and management methodologies.

Practice Task 10

Question 1

List 10 items you should include in a project plan.

Question 2

What are five pieces of information you need to know before gaining approval for a project?

Question 3

Which of the following people would you need to submit your project plan to for approval? Tick all that apply.

○ Accountant

○ Labourers and skilled workers

○ Project sponsor

○ Client

Summary

- A risk management plan must be developed for the project that identifies organisational, project and task risks; assesses their likelihood and impact; and provides steps for managing the risks posed.

- WHS hazards and risks must be identified, assessed and controlled as part of the project planning process.

- Project managers can use a wide range of project planning and management tools such as project management software, Gantt charts, CRM, PERT charts and spreadsheets.

- A project budget must be developed that estimates all direct, indirect, fixed, variable and capital costs for a project.

- Project plans are only effective if project team members are consulted and their views, opinions and experiences are sought and used in the planning phase.

- A project plan assists project managers to delegate tasks, estimate resources and time frames, follow up on activities that are being completed and report on the project's progress.

- Without a plan, projects run the risk of being poorly organised and reactive, and losing focus of the project's major objectives.

- Gaining approval could be a simple, one-step process or it may require you to provide decision-makers with extensive information and documentation on the details of the project before approval is granted.

Learning Checkpoint 2
Develop the project plan

Part A

1. Number the steps from 1 to 5 in the order you would follow to identify risks as part of a risk management plan.

◯ Evaluate the risks to determine priorities.

◯ Monitor and review the risks during the planning and implementation phase.

◯ Control the risks using elimination, mitigation, reduction and transfer methods.

◯ Identify risks that threaten the project's objectives.

◯ Analyse the risks to determine their likelihood and consequence of harm.

2. Which of the following statements are correct? Tick all that apply.

◯ WHS risks include any issues that can negatively impact a worker's health and safety.

◯ WHS risks must be included as part of a project risk management plan.

◯ Risks to the achievement of the project deliverables or objectives are usually tolerable and should only be addressed when they arise.

◯ Consultation is a one-way process that involves project managers providing information and instruction to team members and making decisions based on their own expertise.

◯ Project team members and management teams may need to be consulted to identify their views on project risks and strategies as part of developing a project plan.

3. Draw a line to match each project management tool to its definition.

    » Spreadsheet   » Used to show the time lines, key tasks, dependencies and progress of a project

    » Life-cycle cost analysis   » Illustrates key activities in terms of their impact on the whole project time frame

    » Gantt chart   » A method of project evaluation that involves capturing all expenses associated with the project with the aim of identifying the total cost of owning, operating, maintaining and eventually disposing of the project over its lifetime

    » Critical path method   » Software application used to gather, collate and represent a wide range of data

4. List two key people you would need to seek authorisation from to have a budget and project plans approved.

Part B

Read the case study, then answer the questions that follow.

Case study

Sharon and her partner Bill run a successful online store that specialises in selling unique homewares and gifts. They are planning on setting up their first pop-up store in a busy shopping centre for three months over the upcoming Christmas period. They will focus on selling hand-made and rare imported Christmas decorations. The partners have two months before they would like to start trading at their pop-up store.

The major tasks that must be completed as part of the project, as well as the initial cost estimations based on the allocated budget, are shown here.

Task	Cost estimation
Initial purchase of raw materials and imported stock items	$2,350
Organise a draftsperson to develop a floor plan for the new kiosk design to meet the project specifications	$6,200
Wages for a casual floor staff member	$550
Marketing strategy	$5,875
Kiosk decoration and fit-out	$8,650
Initial payment of lease	$1,800
Business insurance, licensing and registration	$2,250
Phone and internet	$980
Purchase and implementation of two POS and cashier stations	$5,900
Purchase of fittings and fixtures	$3,050
Development of kiosk signage	$2,200

1. What is the total cost estimation for the project?

   ◯ $37,455

   ◯ $37,605

   ◯ $39,805

   ◯ $39,905

2. Draw a line to match each cost type to its definition.

   » Direct   » Phone and internet

   » Indirect   » Lease payments

   » Fixed   » Wages and marketing costs

   » Variable   » POS equipment, raw materials, stock, fittings and fixtures

3. Explain the work breakdown structure (WBS) process Sharon and Bill should use to determine a time frame for the project to ensure they are trading in two months' time.

4. Provide an example of how each of the following items would be included in the partners' project plan:
   - project scope
   - objectives
   - constraints
   - risks
   - milestones.

5. What are two actions the partners should take in order to finalise their project plan?

Topic 3 | Administer and monitor the project

3A Communicate responsibilities to team members
3B Establish and maintain records
3C Manage budgets, resources and quality
3D Undertake risk management

3A Communicate responsibilities to team members

Effective communication is one of the keys to successful project management.

Project management teams must ensure all team members have a thorough understanding of the project scope, what is expected of them and how the team will operate during the implementation phase.

It is important that your team is kept informed about their expectations as well as any issues that affect them.

You will need to have tools and methods for maintaining open lines of communication with project team members, some of which are presented below.

Communication tools
Create an organisation chart for the project that clearly shows who is fulfilling which roles, who reports to whom and what responsibilities fall under these roles. This can be communicated to all stakeholders electronically or via a centrally located noticeboard. After an initial consultation with stakeholders, plan what methods of communication are to be used for each function in the project and assign these to members of the project team and other key stakeholders. Plan to conduct regular team meetings and set up other communication tools such as team newsletters to facilitate communication and information flow throughout the life of the project.

Job descriptions and instructions
Develop a job description for each role in the project team. These must list the key tasks and responsibilities of the role, identify key performance areas (indicators against which performance is measured) and clearly state who the team member reports to and is expected to liaise with. Ensure each team member is clear about what to expect and the context they are to work within. Discuss the job description with them in detail and ensure each team member is clear on their duties. Some team members may require training if new processes or different resources are allocated to a job. Consider induction and job training in your planning to minimise the risk of task failure. Talk team members through the final version of the plan. The project plan should be something they are familiar with as, ideally, you should have consulted with them and sought their feedback and commitment during the planning phase. Make sure a detailed copy of the project plan is available for project team members to review and check throughout the project's duration. Provide copies of any reports or updates that are issued.

Communicating project requirements

It is important to educate team members about the key requirements of the project to ensure they are aware of the higher-level goals that the organisation aims to achieve and the strategies that are being used to get there.

Communication in project management is essential in achieving the planned objectives. The methods used and the amount of information that you communicate to team members about project requirements should be relevant to each job and individual.

Information communicated to project team members may include:

- project deliverables
- project scope of works
- objectives
- performance measures and targets
- client details
- quality specifications
- schedules
- project authorities
- change management procedures.

Communication methods

Communication methods must ensure every team member has access to the information in a timely manner.

When discussing expectations and roles with project team members, you will need to identify which communication methods are most appropriate based on all the factors you have identified so far. This includes the purpose of the communication, context, relevant persons, individual barriers, needs and environmental factors.

You will also need to consider the pros and cons of each message in the particular context and whether a response or contribution from the audience may be required, or if the message is a one-way transmission.

The following table lists the various communication methods available and situations when each may be appropriate.

Team meeting	• Common purpose and objectives
	• Group problem solving/brainstorming
	• Non-urgent messages
	• Sharing important information and ideas that impact all members of the team
	• Two-way communication
	• Feedback about team outcomes and issues
One-on-one meeting	• Provide formal feedback that is relevant only to one individual
	• Discuss confidential, private or sensitive matters
	• Two-way communication
Ad-hoc discussion	• Urgent communications
	• Provide ongoing feedback to an individual or group
	• Discuss information that is not regarded as confidential, private or sensitive
	• Restrictions on time and resources
	• Limited two-way communication
Email	• Non-urgent messages
	• Common purpose and objectives
	• Communicate one business topic
	• One-way communication to many people
	• Support a face-to-face communication
	• Information must be recorded and stored
	• Lengthy messages such as instructions or special requests
	• Where there are verbal communication barriers
Text message	• Short communications
	• Confirmation of understanding is sought
	• Brief updates
	• Non-urgent messages
	• Time is an issue
Telephone conversation	• Urgent and important communications
	• Two-way communication
	• Access and distance are an issue
Group webinar	• Non-urgent messages
	• Access and distance are an issue
	• Two-way communication
	• Common purpose and objectives
	• Group problem solving/brainstorming
	• Sharing important information and ideas that impact all members of the team

Communication skills

Effective communication means the intent of your message is successfully sent and received by the audience.

Effective communication is the exchange of information and the transmission of meaning; it is the very essence of a social system or an organisation. Without effective workplace communication, most project teams would come to a grinding halt. As more and more work is organised, good communication is increasingly important. It is a necessity that all project team members depend on.

Follow these communication tips to ensure the information you provide is relevant, accurate and understandable:

- Avoid legal jargon and complicated terms.
- Use language that individuals will understand.
- Don't read the riot act: explain the requirements in positive terms.
- Don't overload people with complicated and lengthy written information.
- Allow sufficient work time for people to read information.
- Consider the needs of people who do not speak English well or for whom English is not their primary language.
- Use written means for larger amounts of information.
- Ask for the person's feedback to ensure understanding.
- Provide follow-up support to ensure the person can use the information in their job.
- Provide a written explanation to support your verbal communication

Providing support for project team members

It is important to provide support for project team members, especially with regard to specific needs, to ensure the quality of the project outcomes and documented time lines are met.

Project team members need various levels of support from the project management team in order to achieve the milestones, objectives and deliverables of the project.

There are many ways of supporting project team members.

Resources
- Having the correct amount and type of resources available is important for achieving your project objectives, including time and quality outcomes. A resource is anything that can be used for support or to assist your project in accomplishing its goals.   - All resources purchased and/or allocated to team members must be within budget. Resources include physical equipment, tools and materials, finance, time, technology and people (human resources).
Encouragement
- The term 'encourage' means 'to put courage into a person'. It also refers to giving hope and confidence to a person. As a manager, your words and actions are very powerful and as such, you should always look for opportunities to encourage your workers. This will help build a positive working culture among the frontline work teams, which will ultimately lead to greater performance, client satisfaction and profit.   - Encouragement can include words of praise while on the job, a simple phone call or a text message to congratulate a person on a job well done, or special mentions during team meetings about improvement.
Feedback
- It is important to share feedback about the outcomes of the team members' efforts and recognise the contributions that have impacted on a project's results. If you fail to do this, chances are that contributions, support and overall morale will plummet, causing team performance to suffer, which will impact project schedules and quality requirements.   - Timely, constructive and specific feedback on project outcomes can also say a lot about the value that you hold towards your team and the success of your project.   - You must provide feedback to your team as soon as you can so it is current and relevant. It is important to be specific about what the successes have been and how they have helped the team and the organisation.

Learning and development

- Team members must be supported by initial and ongoing learning and development opportunities to hone existing skills, correct under-developed skills and develop new competencies.
- You can provide many learning and development opportunities to your project team members:
  - *Coaching.* This is the process of training, developing and empowering a person to do a task. It involves supporting and guiding a person through a task and enabling them to follow a process to make good decisions.
  - *Mentoring.* This is the relationship of personal development that exists between a mentor and mentee. Mentoring involves encouraging self-development, listening and questioning, sharing experiences and enabling the mentee to work things out for themselves.
  - *Discussions.* The discussion method uses two-way communication between the manager and team members to increase knowledge. This can be a short lecture (20 minutes or less) to provide the team with basic information. The information is followed by a discussion between the team and the manager, who supports, reinforces and expands upon the information presented in the discussion. The manager can then determine whether the team has understood everything by asking them for verbal and non-verbal feedback.
  - *E-learning.* Many companies have implemented e-learning systems, which encompass several different types of technology-assisted training, such as distance learning, computer-based training (CBT), or web-based training (WBT). Distance learning is used for routine training or when trainers and workers are in remote locations. Typically, technology is used to broadcast a trainer's lecture to trainees in many separate locations.
  - *On-the-job training.* The most common method of training, on-the-job training (OJT), uses more experienced and skilled employees to train less skilled and experienced employees. OJT takes many forms and can be supplemented with classroom training. Included in OJT are the job-instruction technique, coaching and buddying. Formal OJT programs are typically conducted by workers who can effectively use one-on-one instructional techniques and who have superior technical knowledge and skills.

Regular information and reports

- Obtaining regular and accurate information is vital in helping team members perform to the standard expected of them.
- Information required includes:
  - any changes to plans, schedules, tasks, quality or scope
  - feedback on personal performance
  - communication regarding project issues, risks and overall progress
  - reports on client satisfaction levels
  - feedback on issues raised in consultation sessions.

Supervision
▪ Once work is underway, you should take steps to regularly supervise each team member, making sure they are working effectively and have the competencies to achieve the project's goals.
▪ Supervision involves:
– consistently monitoring the performance and outputs of team members
– measuring and testing outcomes during and after the completion of tasks
– conducting physical site/job inspections and observing tasks completed or in progress
– making yourself available at ground level to provide input into activities and correct issues as they occur
– maintaining the health and safety of workers and other people who come into contact with the job site
– providing relevant instructions to team members.

Practice Task 11

Question 1

Which of the following methods would be useful for communicating project requirements to a whole project team? Tick all that apply.

◯ SMS

◯ Team meetings

◯ Virtual online meetings

◯ One-on-one meetings

◯ Email

Question 2

Describe three actions you would take to communicate clear responsibilities and project expectations to project team members.
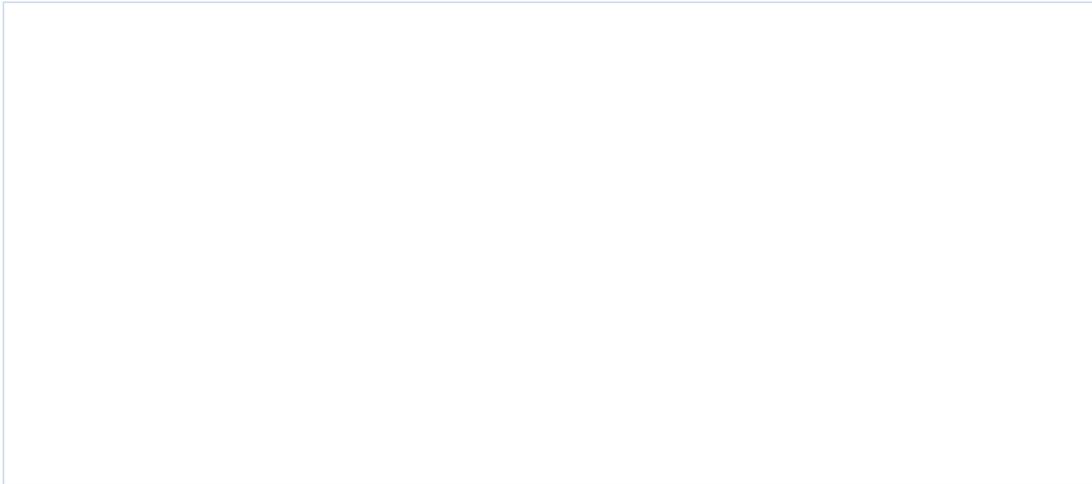
Question 3

List five ways you can provide support to project team members to help them meet the project requirements.
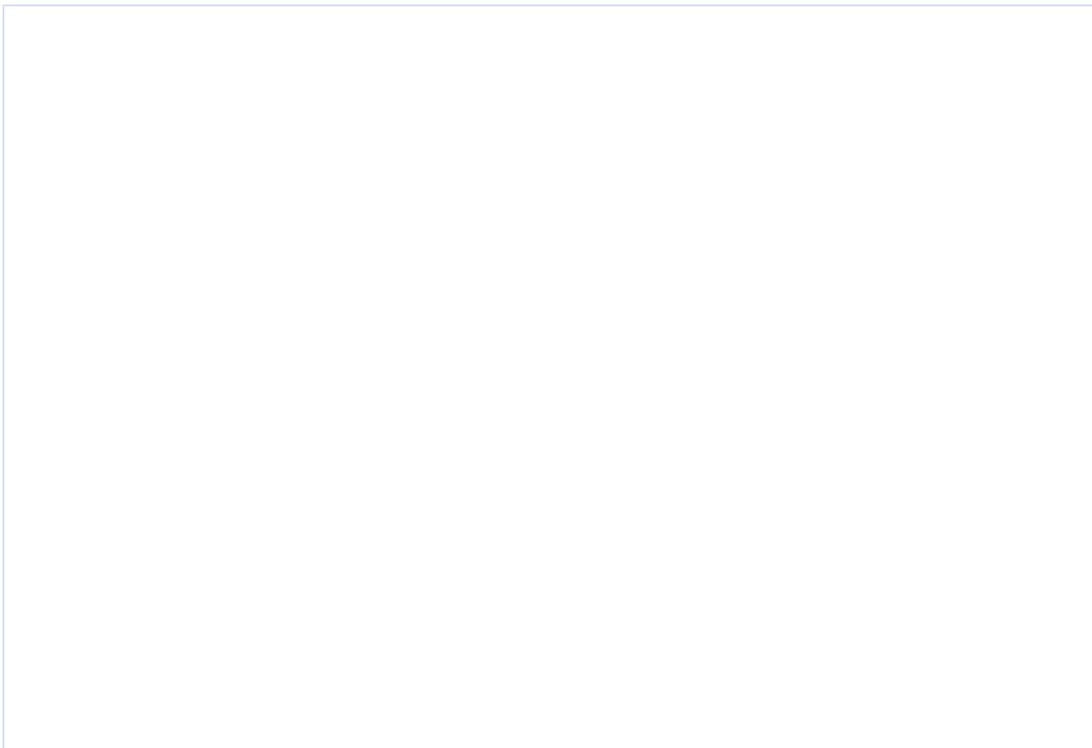
3B Establish and maintain records

Effective projects depend on the availability of reliable and timely information. Without this, the quality and productivity of the project team will be compromised.

Before a project commences, you need to establish how you and your team are going to manage the various information requirements of the project. Keeping adequate records and having an effective system for reporting information is vital to successfully execute projects.

An effective record-keeping and reporting system requires:

- accessibility
- adequate speed of input of and access to information
- a common format throughout the organisation
- secure storage of information.

Record-keeping systems

To make informed decisions, monitor project performance and identify improvement opportunities, a project management process needs a record-keeping system.

Information management is the systematic control of recorded information from creation to disposal, incorporating procedures, rules and systems for the creation, storage, retrieval and disposal of a business's information.

It includes maintaining records, documents and data in adequate cost-effective storage, identifying retention periods, applying classification and movement controls, and ensuring information is disposed of correctly.

The four key elements of a record-keeping system are shown in this diagram:

```
                    ┌─────────────┐
                    │   Inputs:   │
                    │  Adding new │
                    │  records and│
                    │ information │
                    └─────────────┘
                           │
  ┌──────────┐      ┌──────────────┐      ┌──────────────┐
  │ Outputs: │      │   Record-    │      │   Storage:   │
  │Retrieving│──────│   keeping    │──────│  Maintaining │
  │information│     │   system     │      │  access and  │
  │and records│     │              │      │  security of │
  └──────────┘      └──────────────┘      │  records and │
                           │              │ information  │
                    ┌─────────────┐       └──────────────┘
                    │ Processing: │
                    │  Updating   │
                    │ information │
                    │ and records │
                    └─────────────┘
```

Project management record-keeping systems

In modern industry, project managers utilise a computer-based project management software system that enables effective record keeping and reporting through its core functions.

Project management record-keeping systems include manual (hard copy records), electronic (soft-copy records) or a combination of both. Depending on the project you are required to implement, record-keeping and information management systems can range from files in a manila folder to an advanced off-the-shelf system.

The basic features of a standard project management record-keeping system include storage, maintenance, access, retrieval and security of records and information.

More advanced project management software systems will allow users to:

- track training, licences, certifications and disciplinary actions for new and existing employees
- update timelines and schedules and forecast impacts to the baseline
- develop policies and procedures
- allocate follow-ups based on a reported hazard or incident
- manage issues and change requests through each stage of the process
- quickly and easily access forms, policies and procedures
- manage non-conformances and improvement opportunities
- track the achievement of quality and other performance metrics
- develop reports on project performance in a range of areas
- communicate reports to various stakeholders
- access multiple levels of security and authorisation controls.

Records to be retained

A record is any document that provides evidence of a business activity being conducted by an organisation.

Project records provide knowledge of what happened, when, how and who did it. They enable project teams and management to prove that actions have been taken and commitments entered into, or obligations carried out.

Project records can be paper based or electronic.

Types of records that need to be retained as part of a record-keeping system are:

- project scope plans
- project management plans
- quality, human resource and other management plans
- schedules
- stakeholder correspondence
- progress and status reports
- issues logs
- change requests
- budgets and financial documents
- staff training records
- employee records including performance reports, employment contracts, personal information and incidents
- hazards, incidents and accidents
- investigations

- organisational policies and procedures
- quality assurance audits
- project reviews and reports
- action/improvement plans.

Maintaining records

Maintaining records involves storing, securing and keeping track of a project's progress, including making sure all decisions, records and reports are clearly documented.

Information is vital in order for everyone involved in the project to do their job effectively. Project management team members must invest time in ensuring the right information is captured and communicated to the right people, using the most reliable and efficient methods possible.

The project management plan should have an established procedure for recording project performance information and reporting this information to key project stakeholders.

This function is primarily associated with project information and communication management.

Example

Maintaining project records

Jacinta, the sales and marketing manager for a wholesale nursery, is conducting a sales project. She prepares a series of forms to track customer satisfaction and find out what additional services customers would value.

All staff are asked to complete the forms with customers so the nursery can build a database of new product ideas and track their performance against previously agreed benchmarks.

Jacinta creates a folder on the nursery's computer where these forms can be saved once they are completed. She issues all staff with simple instructions on when to complete surveys and how to save them in the right place on the computer system. Additionally, she asks them to save the data on a daily back-up system for added safety (in this case, a portable hard drive).

At the end of each week, Jacinta is able to download the completed surveys and add the results to her evolving database.

Practice Task 12

Question 1

What are the four key elements of a record-keeping system, in their correct order?

◯   Inputs, processing, storage, outputs

◯   Information, storage, access, outputs

◯   Inputs, storage, processing, outputs

◯   Inputs, outputs, storage, processing

Question 2

What is involved in maintaining project records?

3C Manage budgets, resources and quality

One of the most important parts of project management is monitoring and controlling the project's performance.

Project management teams need to ensure that all activities are being accomplished according to the strategies and objectives outlined in the project management plan and that any deviations are corrected with minimal disruption to the project's critical success areas.

Essentially, implementation and monitoring are about maintaining control over the project, ensuring it is moving towards the milestones and, ultimately, achieving the goals that define its success.

Project control

The plans you created at the beginning of your project must be implemented and monitored throughout the project's duration.

A major task in the implementation and monitoring phase is to collect information from team members that gives you a clear understanding of how individual tasks are tracking against project targets.

Monitoring and control can be achieved by following five basic steps:

1. Establishing performance metrics that will become benchmarks upon which measurement will be made

2. Gathering data and information to monitor performance against those standards through regular supervision, observation and reporting

3. Measuring performance against the standard

4. Taking corrective action to correct deviations

5. Regular reporting mechanisms such as status and progress reports

Gathering quality data and information

Cost, quality and resource performance data and information should be collected during the project's execution phase.

The type of data needed to monitor and control the project and the method of collection should be planned and recorded in your project management plan as part of the project monitoring and control strategy.

This type of data can be collected from various sources including:

- personal site observations, supervision and monitoring
- feedback from project team members using toolbox talks and other team meetings
- feedback from clients and other stakeholders
- project management reporting systems
- issue registers
- change request registers
- WHS/risk reports
- monitoring/testing results.

Monitoring finances

Projects must be monitored across three critical areas: finance, resources and quality.

Monitoring finances involves tracking spending against budgets throughout the project's lifetime and reporting on how money has been spent at the conclusion of the project.

Regular financial reports are often presented to the person or committee responsible for overseeing the project. You need to ensure all financial records, such as invoices, financial statements, purchase orders, cab vouchers and petty cash slips, are obtained when required, checked for accuracy and filed appropriately.

This information can be used to produce a budget-vs-actual report, which is distributed to the project stakeholders.

To monitor finances, you need to collect information about:

- the estimated and actual expenditure (or number of labour hours) for each task
- the amount spent to date against the total project costs as well as against budget breakdowns
- the estimated remaining costs to complete the project both in total and by budget
- issues that are causing the project to cost more (if applicable) and what is being done to contain expenditure.

Monitoring quality

Quality audits must be regularly performed to identify actual performance against quality benchmark criteria and specifications.

Quality audits are formal reviews that are completed periodically – such as upon completion of a milestone, deliverable or major stage completion – or randomly.

When monitoring project quality, you must identify any gaps between what was planned in the project quality specifications and what is being delivered.

Quality assurance

The term 'quality assurance' (QA) refers to the planned and systematic activities implemented in the project management system to ensure the deliverables are of the right standard.

- QA is performed throughout the project process and is embedded into every aspect of the project implementation phase. Project deliverables must be measured against a set of agreed standards (quality benchmark criteria or specifications) to determine whether quality indicators are being achieved.

- The effectiveness of the QA process depends on valid data being collected and used to determine the actual performance of the project. This data must then be evaluated against a range of benchmark criteria (specifications) that relate to the quality objectives and metrics described in the project management plan. From there, gaps and achievements can be identified.

Quality data may include the following:	Benchmark criteria can include the following:
- Financial data including expenditure, loss and revenue generated - Testing and monitoring results - Observation - Measurements and evaluation of products and services - Completion of set performance targets - Client feedback and satisfaction results	- Product specifications - Quality criteria/benchmarks - Legislative and regulatory requirements - Australian Standards for quality management in projects - Standards defined in relevant Codes of Practice - Client needs and expectations, including the client's personal definition of 'quality' - Explicit and assumed performance specifications - Negotiated trade-offs between cost, schedule, resources and performance - Project stakeholder expectations - Requirements that influence the end user's satisfaction

Monitoring resources

For projects to run effectively, they need an appropriate number of resources at the right times.

Projects need to run on sufficient resources to achieve the tasks set out in the project schedule. Throughout a project, issues such as a resource shortage or over-spending on resources can impact its progress.

Human, physical and technical resources require continual monitoring and control to maintain the project's focus. As with monitoring financial performance, you will need to collect reliable data about actual resource usage from tracking sheets and confirm actual versus planned resource usage as well as any variations.

Human
Consider team and individual motivation, training, capabilities, sickness, leave requirements, workplace safety, worker rights and compensation rates.
Physical
Consider changes in the geographic location of resources, transport and logistics, wear and tear, ongoing suitability and monitoring lease or purchase contracts.
Technical
Consider whether the resources are meeting current trends and industry knowledge, whether they are relevant and appropriate to each task and how costs are monitored.

Project reports

Stakeholders with a vested interest in the project will need information and reports about the project's performance.

Reporting means sharing information, notifying stakeholders of achievements, problems and issues you experience, and communicating progress against the project plan. Project reports vary depending on the information requirements of the stakeholder, the length and nature of the project and the organisation's adopted project reporting strategy.

Project reports should be relevant to the organisation's standards and stakeholder requirements.

The style and format for a project performance report will vary from a simple dashboard status or progress report showing percentage of completion to a more in-depth analysis of project issues, achievement and progress to date.

The most common types of project reports used to communicate information to stakeholders are described below.

Progress report

Progress reports provide regular feedback to stakeholders regarding the progress of the project. They may be developed weekly, bi-weekly or monthly, based on the needs of the key stakeholders.

Generally, a progress report should include the following information:

- reporting period to which it refers
- project title
- project synopsis (i.e. project goals and objectives, expected results, activities, duration)
- project, task and milestone commencement
- project, task and milestone progress (behind, on or ahead of schedule)
- project, task and milestone completion
- current work in progress
- variations to the schedule.

Status report

Project status reports are a shorter, more succinct version of progress reports, providing a 'snapshot' of the achievements and shortfalls as at the specific status point of the project. They are generally prepared by the project manager. Status reports often use information provided by progress reports. They may be prepared weekly, fortnightly, monthly or quarterly, depending on the stakeholders' needs.

A status report will usually include the following items:

- project status overview
- outstanding variation of request for information (RFI) that needs to be actioned
- work to be completed during next reporting period
- work completed during last reporting period
- items of concern that may impact cost or schedule
- specific client action items.

Issue report

Project issue reports deal specifically with the risks and other problems that have impacted the performance of the project. They are used to identify problems associated with scheduling, budgeting, risk management, and any other issues that arise in between issue status reports and stakeholder meetings.

An issue report takes its data from the issues log. It should therefore contain a summary of the following information:

- documentation of the gap between a baseline and the present situation
- the root cause or reason for the variation
- the actual or potential threats to the project if the issue remains unresolved
- a recommendation for addressing the problem
- priorities for implementing the proposed recommendation.

Budget-vs-actual report
The most common type of financial report used in project management is the budget-vs-actual report. It is a simple method for monitoring and reporting budget outcomes of actual and budgeted expenses.

This report consists of columns:

- The first column shows the budgeted amounts.
- The second column shows actual performance.
- The third and fourth columns shows the variance between actual results and budget expectations.

Variances are identified as 'black' for favourable or 'red' for unfavourable and are shown as a dollar figure and a percentage figure.

Example

Budget-vs-actual report

| Item	Budget	Actual	Variation	
	$	$	$	%
Costs				
Labour	63 000	63 000	–	–
Equipment	76 700	78 000	+1 300	+1.7
Stationery	460	600	+140	+30.4
Laptop	2 000	3 500	+1 500	+75.0
Mobile phones	2 040	1 600	–440	–21.6
Materials	3 000	2 200	–800	–26.7
Total	147 200	148 900	+1 700	+1.2

Practice Task 13

Question 1

Describe two strategies you can use to help collect valid information for monitoring a project's finances and resources.

Question 2

List the four pieces of information needed to effectively monitor project finances.
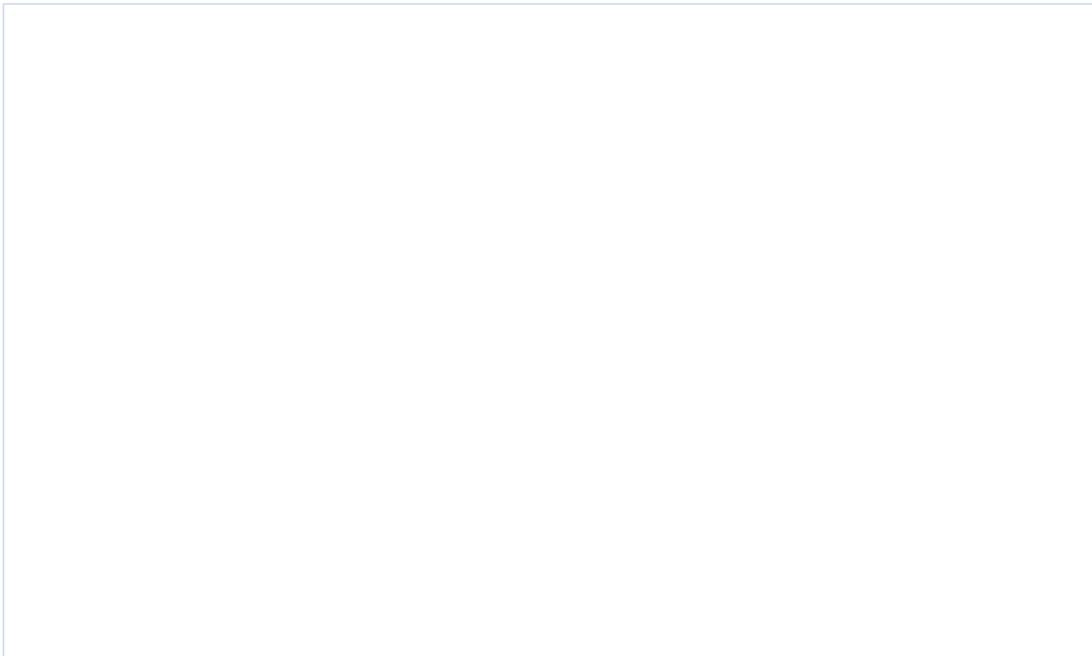
Question 3

Which of the following reports can you use when monitoring project performance? Tick all that apply.

○   Project report

○   Status and progress report

○   Budget-vs-actual report

○   Risk identification register

○   Issues report

3D Undertake risk management

Project risks are constantly shifting and require proactive management.

In Topic 2A, we looked at a number of tools for identifying project risks at the start of a project. However, risk management requires ongoing review processes throughout the project's life cycle. This includes an ongoing evaluation of the internal and external risk contexts and the identified risks that have been recorded in the project management plan.

Here are some examples of internal and external risk contexts:

Internal risk contexts	External risk contexts
- organisational capabilities - organisational systems - workforce composition - products and service range - finance and resources support - supplier relationships and performance - marketing intermediaries	- state, federal and global economies - technology demographics - competitor activity - political and legal forces - social and cultural landscape

Monitoring the risk environment

Monitoring the risk environment means gaining an up-to-date snapshot of the project's internal and external risk contexts.

The risk environment or context can be monitored using the same tools and processes as used in the first step of the risk management process. These include consultation with internal and external project stakeholders and gathering data and information about the internal and external environments.

A SWOT analysis can also be used to determine the strengths, weakness, opportunities and threats related to the project.

Here is an example of a SWOT analysis:

Internal environment	
Strengths	- Quality product range - Intellectual property ownership - Unique brand awareness - Operational capacity - Bundled products and services - Industry knowledge and experience - Unique services - Accreditations - Strong existing customer base - Renowned customer service performance - Quality assurance accreditation
Weaknesses	- Lack of skills in the workforce - Poor leadership - Operational limits - High customer attrition rates - Small marketing budget - Poor brand awareness - Lack of competitive strength on price - Inadequate resources - Low quality of some products - Lack of marketing expertise - Limited money to spend on maintaining brand awareness - Multiple authorisation structures to overcome
External environment	
Opportunities	- Customer requests and needs - New research and knowledge - Unique product offerings - Social media – online presence - New opportunities in niche markets - Specific niche of product suite - Strategic alliances and mergers - International markets - Possibility of new partnerships - Global marketing

Threats	- Emerging competition - Unstable economy - International political unrest - Falling value of the Australian dollar - Opening of a new strong competitor - Price wars - New technologies - Increase in taxations - Loss of vital customers - Import/export laws - Changing laws - Government funding decreasing - Natural disasters

Risk management strategies

Based on your analysis of the internal and external project environments, you may need to implement a risk response.

A risk response is any follow-up treatment that will either remove or reduce the risk level to something that is more acceptable. A risk treatment may be a new control measure, an upgrade/modification of an existing control, or removing an ineffective risk control and replacing it with something better. New risk treatments should aim to remove the risk source where possible or reduce the risk to an acceptable level.

If these aims cannot be achieved, you may need to accept the risk or look for ways of avoiding the risk altogether by not proceeding with an activity that gives rise to the risk.

These are examples of risk management treatments:

- Seek further resources that enable you and your team to meet deadlines.
- Negotiate an extension of a deadline or redefine completion requirements, quantities or quality of outcomes.
- Reduce costs so budgets are not exceeded, especially if budgets have been revised down.
- Research and apply more efficient methods of completing project tasks so they may be finished within time frames or budgets.
- Share ideas within the project team and with external groups to improve the way project tasks are undertaken.
- Outsource some aspects of the project originally allocated to project team members.

- Change roles and responsibilities within the project team to promote more effective work structures.
- Assign work to those who are able to complete it at a lower cost, more quickly than others or to a higher standard.

Modifying the risk management plan

Risk management plans need to be updated and modified to document changes to risks and record the planned methods used to address new or emerging risks.

The information resulting from your new evaluation of the risk context must be recorded on a risk template such as a risk register, or directly into the project risk management plan or project management plan.

This documentation process is crucial in risk management both for monitoring and reporting purposes. It ensures the relevant information is up to date and accurate and provides the necessary assurance to stakeholders and the client that the project management team is doing all it can to address its project risks.

Practice Task 14

Question 1

Draw a line to match the internal and external risk contexts to their correct descriptions.

» External   » Workforce composition

» External   » Organisational capabilities

» internal   » Competitor activity

» internal   » Political and legal forces

Question 2

Which one of the following best describes the term 'risk response'?

○ Any new risks, or growing risks, that have increased in risk level and priority

○ Any follow-up treatment that will eliminate the risk or reduce the risk level to something that is more acceptable

○ Any threat to the project's objectives

○ A detailed action plan that explains how the risk will be managed

Question 3

List three examples of risk management strategies that can be used to address new or emerging project risks.

Summary

- Members of a project management team must ensure all of the team members are aware of their responsibilities and what is expected of them in achieving the project objectives.
- Team members must be supported by the project manager as they perform their duties. This can be done through supervision, encouragement, feedback, regular meetings, and providing learning and development opportunities.
- Establish record-keeping systems that record and manage all project information so you can develop a holistic view of the project's progress.
- Project control means monitoring project risks, finance, resource usage and quality.
- Project reports must be distributed to project stakeholders throughout the project's life cycle. These include status, progress, issues and financial reports.
- Once risk management plans have been developed, they need to be modified to ensure new and emerging risks are addressed appropriately.
- Risk management strategies may include seeking further resources, negotiating a deadline extension, reducing costs or changing team roles and responsibilities.
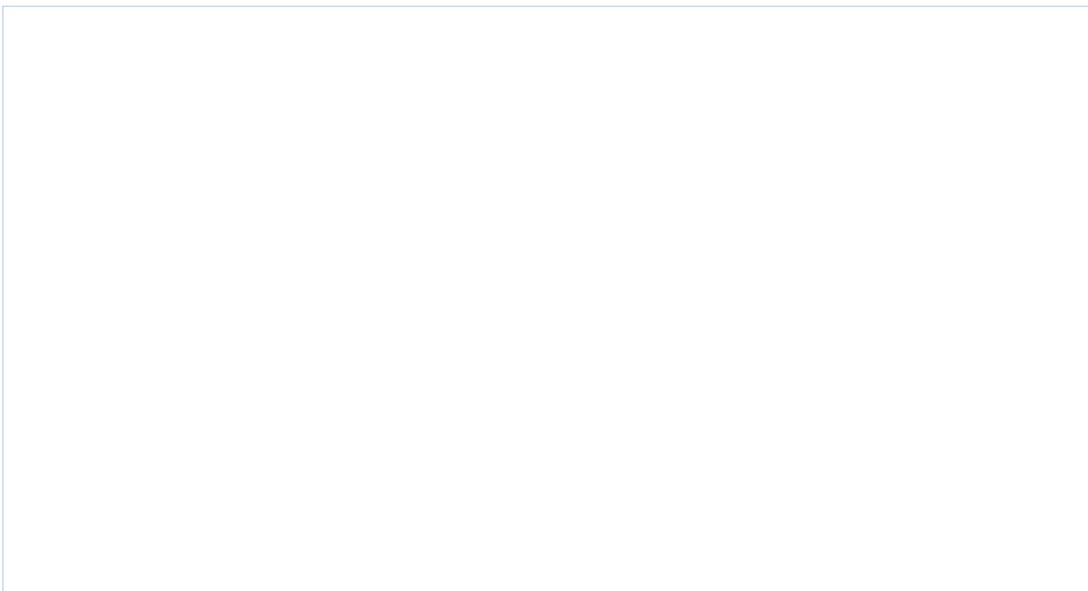
Learning Checkpoint 3
Administer and monitor the project

Part A

1. Identify and briefly explain three types of project reports you would need to distribute to project stakeholders when monitoring a project.
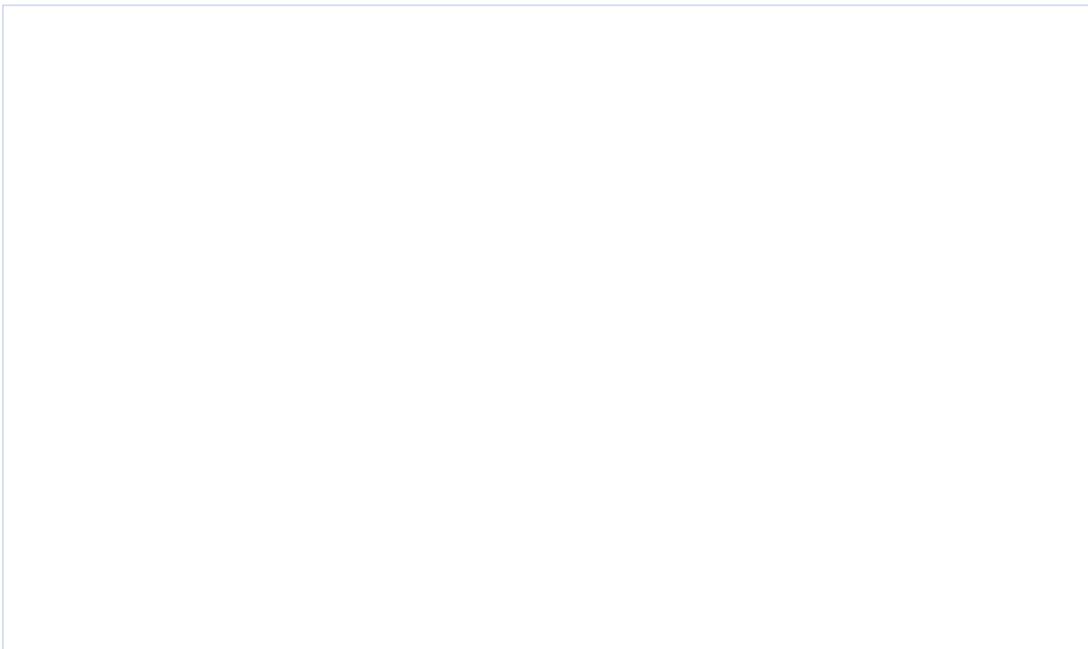
2. List five communication methods that could be used to share project management information to teams and/or individuals.

3. Project deliverables can be measured against a set of benchmark criteria to monitor project quality. Which of the following are examples of quality benchmark criteria? Tick all that apply.

    ◯   Product specifications

    ◯   Standards defined in relevant Codes of Practice

    ◯   Testing and monitoring results

    ◯   Legislative and regulatory requirements

    ◯   Client needs and expectations, including the client's personal definition of 'quality'

4. List four types of resources that can be provided to project team members to help them achieve project deliverables.

Part B

Read the case study, then answer the questions that follow.

Case study

Kyle puts the provision of a new server for a hospital out to tender. From the responses he receives, he appoints a provider and agrees on a date the server will be delivered and set up. He asks the provider to sign a contract, and assumes this will be sufficient and binding in terms of managing their risks with this project. Kyle plans to upgrade some software that is badly needed once the server is installed. He fulfils all obligations at his end.

The day before the server is due to be installed, he gets a phone call from the provider saying the server will not be delivered for two weeks because they have mistakenly ordered a server that is much too small for the hospital's needs. Kyle is furious, but has to do something quickly as he has everything ready to go. Staff have backed up their data and Kyle has the software ready to be installed.

He calls another provider who had responded to the tender and asks them if they can help. Although their quote is higher, it is outweighed by the cost of a two-week waiting period from the original provider. It turns out the second provider has a server in stock and can deliver it the next day.

What Kyle does not expect is the added costs he needs to include in the plan, like the extra hours he spends organising the new provider and the time the legal and accounts departments spend cancelling the original contract and setting up a new one.
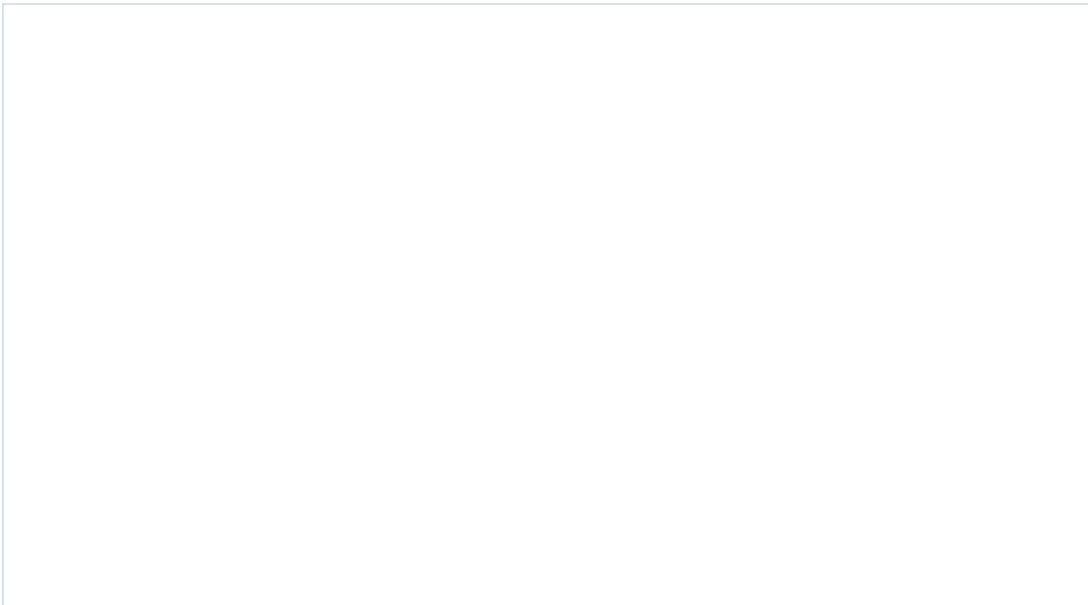
1.   Suggest a risk management approach that could have prevented Kyle's last-minute problems.
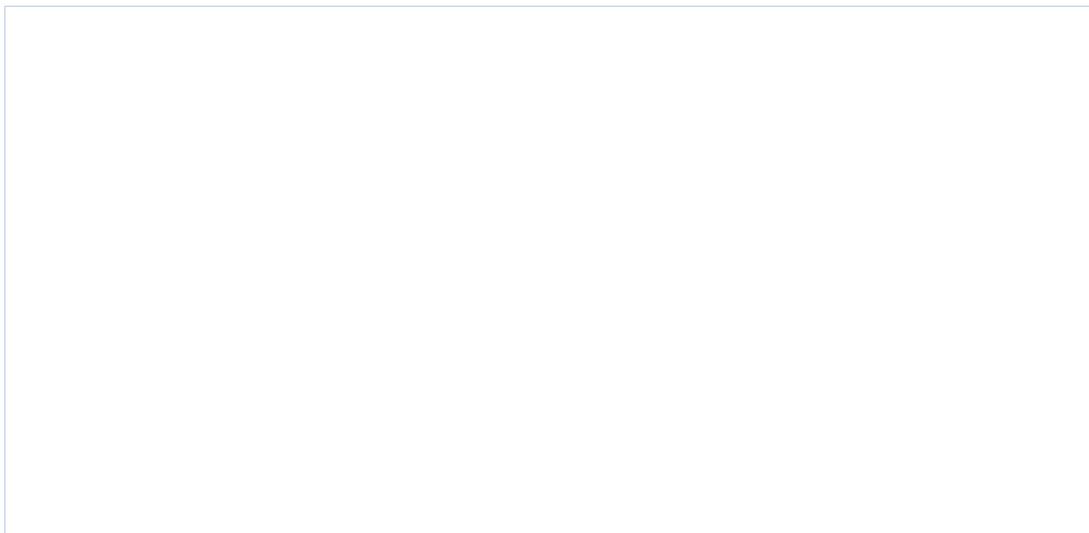
2. Give two reasons why it is important for Kyle to review and modify his existing risk management plans.

3. What is one way Kyle can document modifications to existing risk management plans?

Topic 4 | Finalise and review the project

4A	Complete financial records

4B	Complete project documentation and obtain approvals

4C	Review project outcomes

4D	Document feedback and improvements

4A Complete financial records

The final phase of the project life cycle is the closure phase, which is when the budget is signed off and deliverables are handed over to the client.

A major part of the closure phase of a project is the finalisation of budgets and financial plans. Financial closure signifies the final sign-off on the budget and the project's completion.

When finalising financial records at the end of a project it is important to ensure the following:

- Financial data has been maintained in accordance with your project plans and any guidelines or standards you have been asked to follow.
- The data is in a state that will make it possible to accurately compare planned and actual expenditure.
- The data is accurate and supported by evidence such as invoices, financial statements, budgets (including amendments), purchase orders, remittance advices or log sheets of hours worked.
- Documents can be easily transferred or copied to departments in your organisation, in formats that are easily accessible, for auditing and checking as per your organisation's usual financial processes.
- All financial records are prepared and presented in accordance with legislative requirements.

Settling outstanding accounts

The project management team is responsible for ensuring that all overdue or outstanding accounts with suppliers are finalised by the agreed date for closure of the project.

Checking outstanding accounts is done by ensuring that all final payments for products and services rendered have been made. This will generally involve checking that invoices have been received and processed by the accounts team.

This ensures that the final cost information is available from the financial management system before conducting the final performance review.
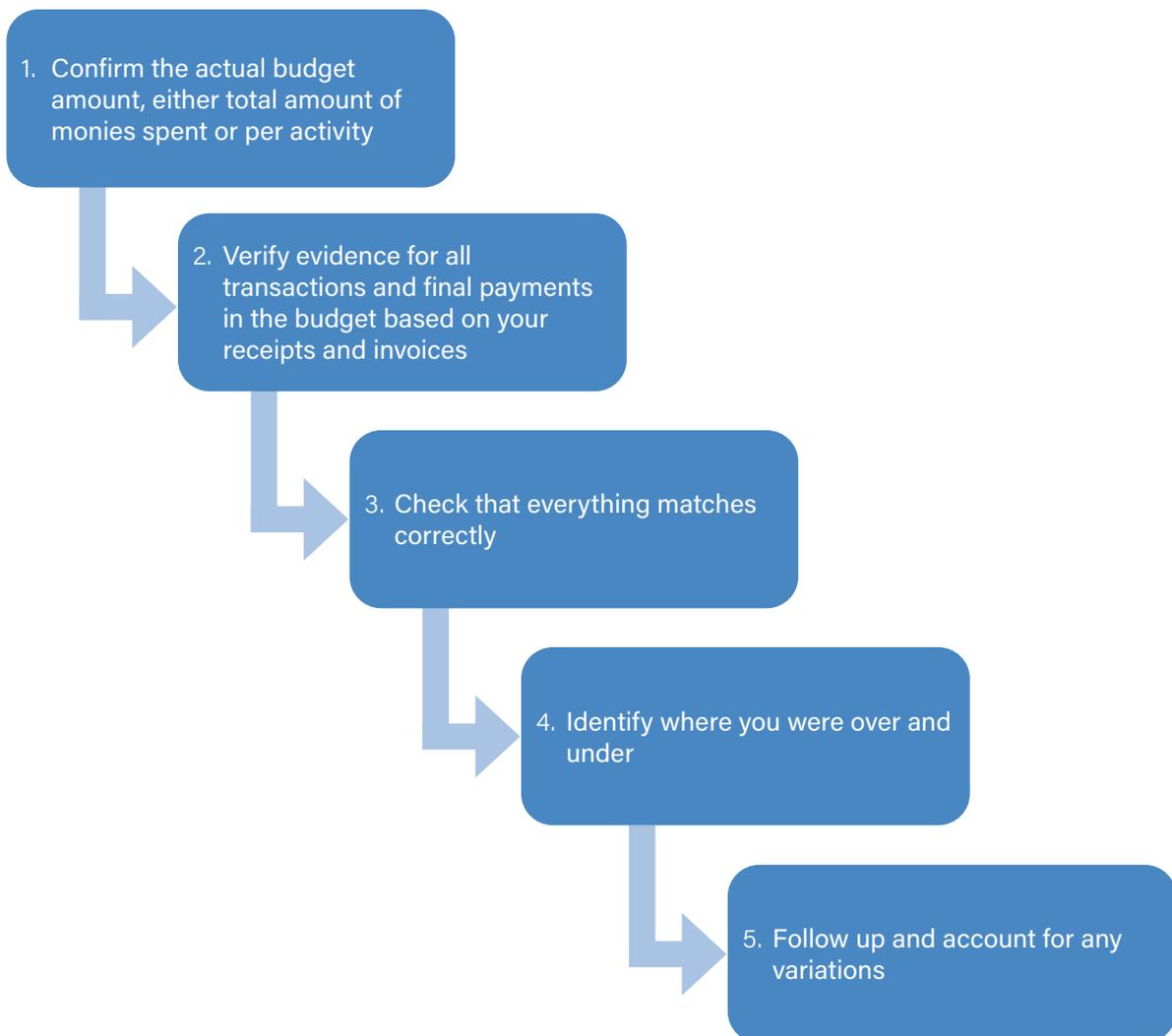
Checking actual expenditure

Project closure means confirming how much money has been spent on the project and comparing this figure to the planned budget.

Checking actual expenditure against the original or revised budget is an essential part of the project closure phase. To ensure your financial records are correct, you will need to complete a reconciliation of financial data and records. Reconciliation involves evaluating and documenting the accuracy of the beginning balance and the end balance of funds available.

A budget reconciliation is completed to guarantee the validity of financial data to be included in the final report.

To complete a budget reconciliation, follow these steps:

1. Confirm the actual budget amount, either total amount of monies spent or per activity

2. Verify evidence for all transactions and final payments in the budget based on your receipts and invoices

3. Check that everything matches correctly

4. Identify where you were over and under

5. Follow up and account for any variations

Example

Budget reconciliation

An organisation decides to undertake all the tasks associated with recruiting rather than hiring the services of a recruitment agency. Most expenses are for staff time (preparing the advertisement, sorting through the applications, conducting interviews, etc.). Some of the tasks are undertaken by the project manager, others by administrative assistants. An external selection panel incurs some costs, including gifts for panel members, morning tea, lunch and afternoon tea.

A number of factors cause the project to go over budget by $240. While most of the activities are within budget, placing the advertisement costs more than budgeted for because the organisation decides at the last moment to run the newspaper ads for longer than originally planned. The organisation also receives many more applications than it expected, which adds to the time allocated to reading applications.

Recruit staff member	Budget ($)	Actual ($)	Variance ($)
Approving recruitment process	150	100	−50
Preparing and confirming job description	342	342	0
Preparing advertisement	135	90	−45
Placing advertisement	500	750	+250
Sorting through applications and handling inquiries	360	450	90
Arranging interviews	25	20	−5
Convening and using selection panel	100	100	0
Catering	95	95	0
Conducting interviews	450	450	0
Checking references	45	45	0
Contacting applicants	70	70	0
Induction	290	290	0
Total	2,562	2,802	+240

Closing financial documents

In accounting, the term 'closing the books' is used to describe the process of closing entries made at the end of an accounting period to zero out all temporary accounts and transfer their balances to permanent accounts.

To close off the books, the project's financial accounts need to be settled to ensure that each revenue and expense account will begin the next project with a zero balance.

Budget control charts

Budget control charts can help highlight where the variances occurred and the extent of these variances.

Based on the budget reconciliation, a simple chart can be produced to show the budget and actual expenditure for the project. This can help show variances including shortfalls in actual expenditure.

Here is an example of a budget control chart:
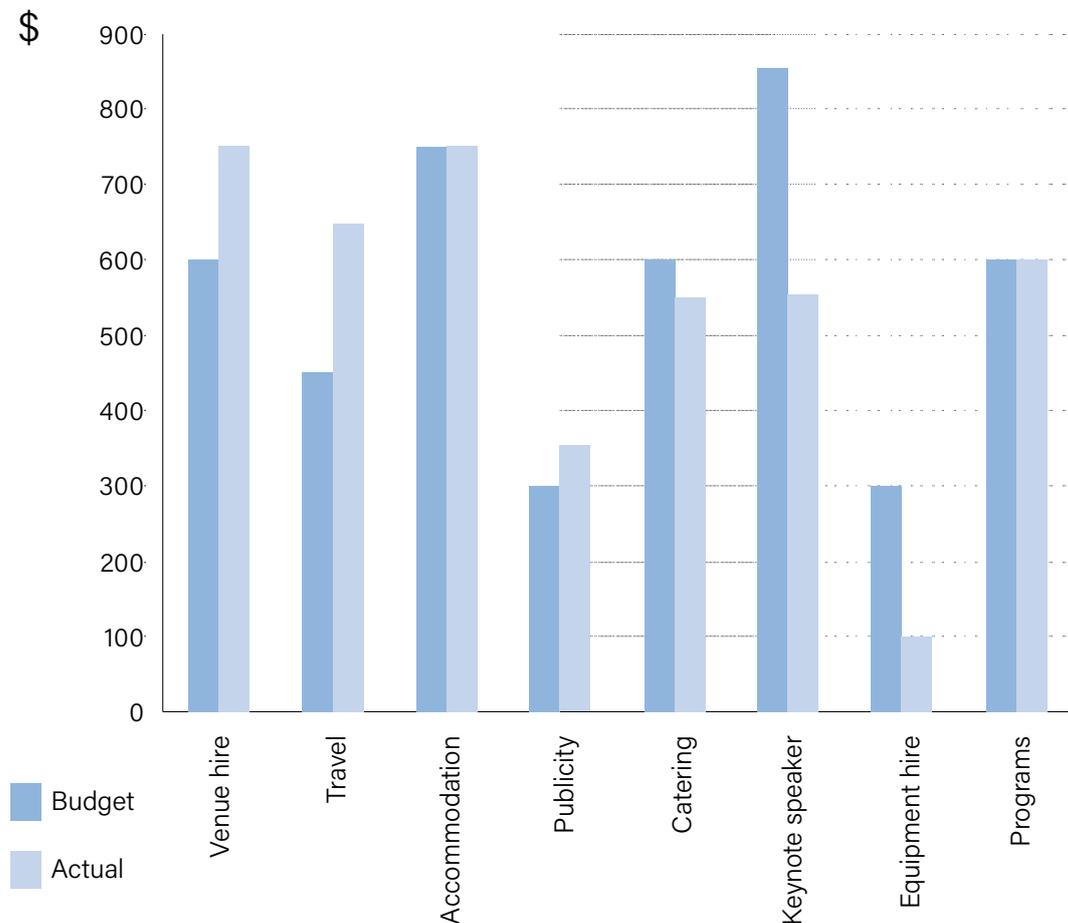
Practice Task 15

Question 1

What three types of documents do you need to close the financial records at the conclusion of a project?

Question 2

Number the steps from 1 to 5 in the order you would follow to complete a budget reconciliation.

○   Identify where you were over and under.

○   Check that everything matches correctly.

○   Follow up and account for any variations.

○   Verify evidence for all transactions and final payments in the budget.

○   Confirm the actual budget amount, either total amount of monies spent or per activity.

4B Complete project documentation and obtain approvals

As part of the project finalisation phase, all documentation needs to be updated, completed and handed over to the relevant project authority for sign-off.

Project documentation must be reviewed and completed to ensure the project has met its internal and external obligations, such as contractual, legislative and financial requirements.

Since project management is an iterative process, plans must reflect any changes during the project's life cycle. This means that amendments to project plans and other documents such as risk management plans and budgets need to be checked to ensure they are correct and current as at the final closure date.

Project management documents that need to be finalised may include:

- project management plans
- project budgets
- issues logs
- incident and risk registers
- client documentation such as contracts and agreements, warranty information, final invoices and results of testing and quality checks.

Contractual obligations

On completion of a project you must check that all contract documents are executed and closed according to the terms and conditions set at the beginning.

Contract closure confirms that all contractual obligations with vendors and clients have officially ceased and are removed from the project environment.

These activities must be completed in the overall project close-out.

Preparing a final project report

Common practice is for the project manager to prepare a written report on completion of the project and submit it to the relevant people for sign-off.

A final project report is often mandatory for government-funded projects and those overseen by steering committees or boards of management. Good business practice is to document each stage, record the project's financial performance, state the outcomes that were achieved, discuss any issues that arose and provide recommendations (if appropriate).

Here are some ways of presenting information in a report format or as a presentation.

Report format

The format of the report may vary according to requirements such as using templates or addressing certain project aspects. However, a final report should include:
 	
1. Title page incorporating the project title, author and date
2. Table of contents
3. Executive summary providing an overview of the project and its outcomes
4. Contents, including:
   ▪ introduction
   ▪ background/history of the project
   ▪ scope, purpose and intended outcomes of the project
   ▪ personnel involved in the project, including its administrative structure; for example, the steering committee
   ▪ project time lines, including milestones
   ▪ stages of the project
   ▪ project budget
   ▪ outcomes of the project
   ▪ issues or difficulties that arose and explanations on how they affected project goals, how they were resolved, which problems were the result of identified risks, whether the contingency plan was implemented, whether it worked and whether there were any unplanned events
5. Relevant documentation attached as appendices; for example, financial reports, samples, project brief

Presentation
When you are confident the report is complete, follow any directions you have been given to present the report such as the number of copies and distribution list, or method of presentation. Make sure you have incorporated the time this takes into your project plan.

Checking and updating documentation

Before handing over documentation to the project sponsor, client or other authority, you must ensure you edit, proof read and format the document.

Reports must be checked to reduce mistakes and issues such as typing errors, and misleading or unlawful content. Missing or incorrect information can lead to unwanted liabilities, financial losses and a negative impact on your organisation's reputation.

There are three key checks you must perform to prepare your final reports before handing them over to the client or project sponsor:

- **Proofreading:** This includes checking and correcting spelling and grammatical mistakes; looking for typing errors; and adjusting the general presentation of the document. You must check and double-check your work before distributing the draft copy to the client/sponsor. This will improve your image as the writer and avoid confusion and frustration from both parties if there is any incorrect or missing information.
- **Editing**: The next step involves improving the readability, flow and accuracy of information contained in your draft. This goes a step further than simply proof reading, which focuses on checking for spelling and errors. Editing includes adding or cutting words or rearranging sentences; checking data for accuracy; checking for sentence structure and readability; and checking statistics and references.
- **Formatting**: The final step you need to undertake before sending your draft involves checking and improving the appearance, presentation and layout of the draft plan. It includes checking font styles, paragraph settings, tabs, bullets, tables and margins for consistency.

Transitioning project team members

All projects come to an end at some stage. This means employment contracts will also cease and your project team will no longer be required on the current initiative.

As the person working on the project management team, you will need to take care of a number of sensitive and important tasks to ensure the team is managed effectively during this stage.

A standard transition process is explained in the chart below:

Facilitate a team debrief to communicate and celebrate achievements.

↓

Conduct a performance appraisal on team members.

↓

Use forward planning to determine potential new roles or ending contracts.

↓

Provide training, coaching or mentoring to upskill people for new internal roles.

↓

Offer exit interviews for people who are leaving the organisation.

↓

Personally introduce each person to their new manager.

Debriefing project team members

Communication and support are vital elements of an effective transition process.

A final team debrief can be used to address a group of project team members at the one time. The debrief should be used to review the project outcomes, reward and recognise the achievements of team members, and formally close off the project for the team.

At this meeting, you can discuss the following key points:

- achievements of the project
- the next stage for the project and organisation
- the successes of the project
- any shortfalls and lessons learnt
- recognising and rewarding outstanding achievements
- encouraging and thanking the team for their valued contributions
- the level of support offered to assist staff members transitioning out or into new roles.

Identifying new roles or end of contracts

At the completion of the project, team members will need to be moved on to other opportunities in or outside of the organisation.

In most cases, project teams will come from internal and/or external sources and involve people on full-time, part-time, casual or contract employment arrangements.

At this point, project team members should be informed in a sensitive manner of where/whether they will continue to be needed. There are various transition options for team members, including:

Redeployment	The worker's current contract of employment is replaced with a new contract for a different position either as part of another project, or as part of the operational structure of the organisation. In other words, the worker is transitioned from one position to another in the organisation, or with a partner or other alliance.
Voluntary or involuntary redundancy	Although this is rare in projects, workers who were previously employed on a full-time or part-time basis may be offered voluntary or mandatory redundancy packages. The employer decides that a position is to be made redundant when the related duties are no longer needed to be done by any person in the organisation.
Expiry of contract	Many organisations hire fixed-term or contract workers for projects. In these cases, the employee is made aware that their employment is only for a certain period and they do not have any expectations of remaining with the organisation.
Retirement	An employee has decided to stop working permanently, mainly due to their age. In Australia, there is no legal age for retirement; however, the age pension is currently (as at 5 May 2020) only available to people who are at least 66 years old.

Obtaining approvals

Once you have reviewed, updated and checked your project documents, you will need to submit the details to the relevant authorising person for formal approval to close out the project.

Depending on the project's nature and scope, you may need to obtain sign-off for the project from numerous individuals or groups, such as the client or project sponsor. You should have identified the sign-off protocols and requirements during the planning phase, so you can refer to the original project management plan for further information. In most cases, you will need to physically present the documents to the relevant authority and ask them to sign off on the documents.

If the organisation received funds for the project, you will have to submit a financial acquittal statement to show where the money was spent. This may require specific forms and there may be procedures you need to follow such as having the finances independently audited.

Example

Final project report

Clarence is the project manager for a roundabout redevelopment in a regional town. The project takes eight weeks and produces a roundabout with new, sturdier concrete edging and a landscaped interior (including a few palm trees and rocks). The final cost of the project is $2,000 over budget at $122,338, due primarily to the increased cost of equipment hire and delays caused by rain.

Clarence details all expenses, both budgeted and actual, in his final report for the sponsor, which will be filed for tabling at the next council meeting. The report includes a graphic presentation of budgeted expenses to allow council members to quickly analyse the outcome and make future recommendations.

The six construction workers employed on the project are immediately reassigned to the next council project. Clarence needs to ensure paperwork for the time they spent on the project is submitted to council.

He organises a casual wrap-up function at the local hotel for the workers to thank them for their commitment to finishing the project on time despite the weather delays.

Clarence's final report includes photos of the site and a brief explanation concerning all project deliverables (including timing, resources, specifications and costs).

The report is submitted through internal council mail to the director of works for sign-off and filing.


Practice Task 16

Question 1

Which of the following types of documents do you need to finalise as part of the project closure phase? Tick all that apply.

○ Organisational policies and procedures

○ Project management plan

○ Project budget

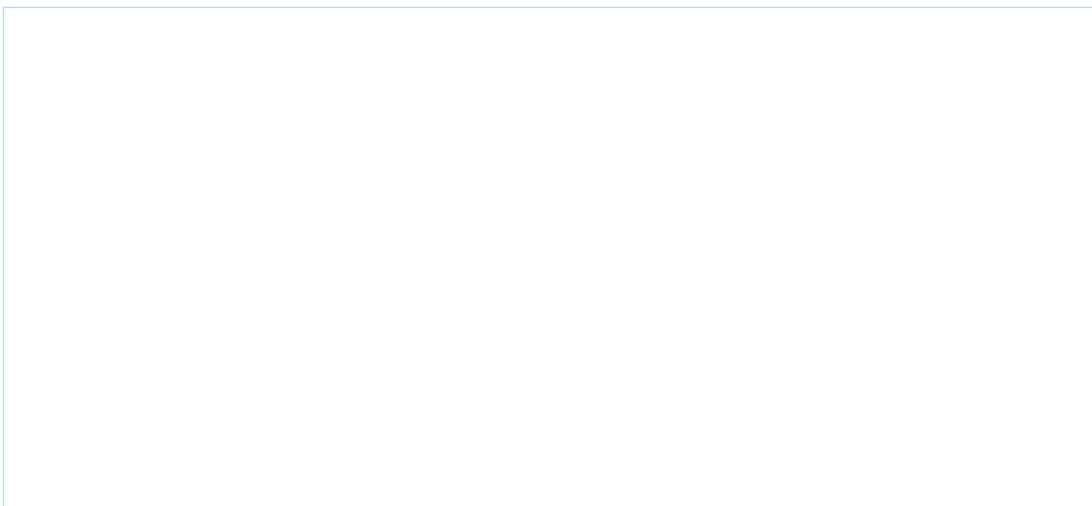○ Issues log

○ Client contract and agreement

Question 2

Identify and briefly explain three options for transitioning project team members once a project is complete.
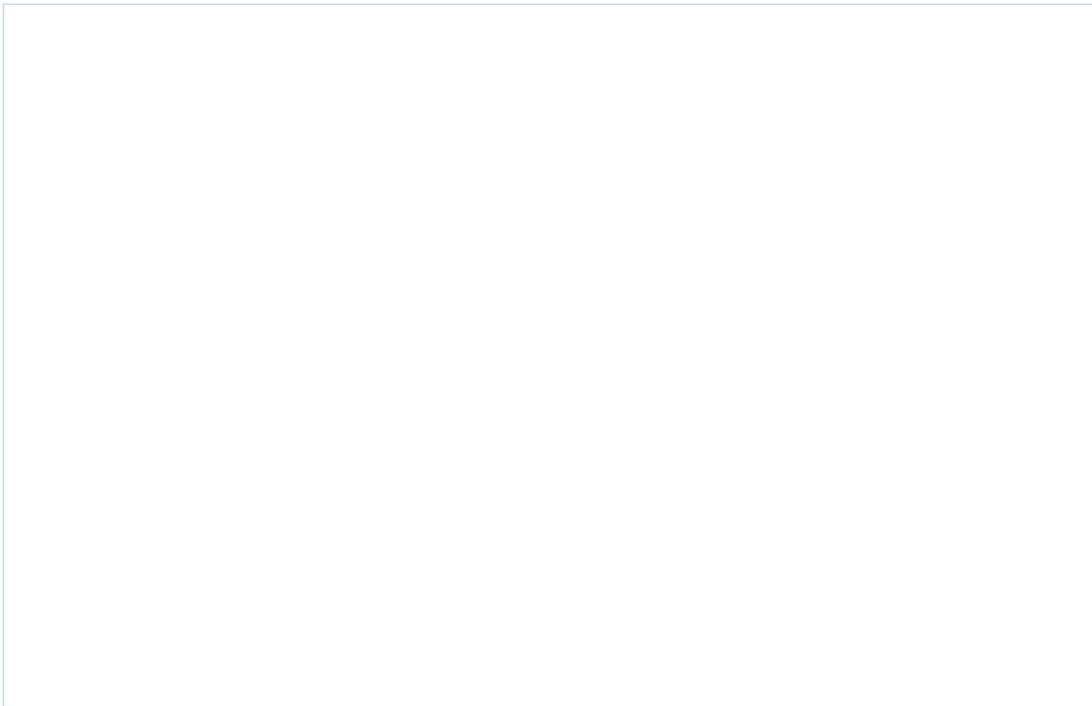
Question 3

Name two stakeholders you may need to present project documents to for final sign-off.

4C Review project outcomes

A project evaluation or review is a quality assurance mechanism conducted at the end of a project.

Reviewing your project after its conclusion is an important final phase in the management of any project. You can evaluate any and all aspects of the project's performance to determine whether the planning, implementation and closure phases of the project were effective. The review can then be used when planning subsequent projects and other activities undertaken by the organisation with a view to continually improving the operation of the organisation's future projects.

The type of review undertaken depends on the nature of the project. For example, it may be formal or informal, qualitative or quantitative, lengthy or brief. Generally, the level of detail and evaluation in the review increases with the complexity of the project.

Accessing reliable data and information

To perform a project review you will need to obtain reliable data and information to determine the final outcomes versus planned targets and objectives as stated in the scope and project plans.

When undertaking a project review, you must return to the original project plans and compare these documents to the project outcomes. This involves obtaining reliable data and information about planned and actual performance. Reliable data includes objective information and facts, such as actual money spent, time frames for completion and waste.

To ensure you conduct the review process correctly, collect a range of reliable records and data.

Information sources may include:

- original and adjusted budgets
- the project management plan
- a subsidiary project management plan; for example, scope, risk and quality management plans
- project status and progress reports
- project issues logs
- change requests
- the project schedule including variations
- counselling and staff performance reports
- client feedback and complaints
- waste/loss reports
- non-conformances identified in the process
- improvement plans.

Reviewing areas

Critical success factors that will help determine the actual success and lessons learnt from the project must be considered when reviewing project results.

When reviewing a project, there are often key areas in which outcomes need to be identified as better or worse than planned. These should be highlighted and presented with a brief discussion as to why this happened.

These areas are the critical success factors for the project and the elements that the project sponsor and the client deem as most important.

Critical success factors may include:

- agreed major milestones; for example, key phases and final project deliverables
- key issues encountered throughout the project and the source of the issues identified during the project
- corrective actions taken during the project to address issues
- project scope, time and cost estimations and forecasting efforts
- budget variations and associated causes
- risks impacting on project outcomes and subsequent effect of risk controls
- providing major deliverables within quality specifications.

Reviewing project management practices

Each project review process must involve an analysis of a number of project management practices.

Project reviews must consider the way in which the project was managed by the people in charge. This helps to determine improvements in project management systems and practices that can benefit future projects and avoid the same issues occurring again.

The following are areas you could examine to determine whether the project was managed effectively.

Time management	- How was time managed during the project? - What issues arose to either advance or hinder the completion of the project? - How did you, as project manager, meet the challenge of assisting team members to meet deadlines? - What methods, tools and systems did you use to set and maintain time lines? - Which scheduling tools worked and which did not? Which ones would you use in the future and why? - Were you and your team confident in using time-management tools or is more training needed to use them effectively? - Did you rely on project management software or use other tools such as keeping a log of activities and tasks to be completed each day or week? - Did you and your team use different methods of time management for small tasks versus larger tasks? - What strategies did you employ when a task appeared likely to go overtime? Did they work? If they didn't work, why not? - What lessons did you learn from this project about setting time lines and making sure they were met?
Personal performance	- How was the performance of project personnel measured? - What criteria were established for evaluating staff performance? Were staff evaluated based on continuous improvement principles? - How did you monitor whether team members were achieving the standard set for work quality? - How did you manage under-performing staff? - How was communication managed? - What training could be given to staff to ensure success in the next project they work on?
Work quality	- Did the project achieve the required quality? - How did you know team members understood their obligations regarding the delivery of quality work? - Did you use any pre-existing quality standards? - Were quality checks built into systems and processes used during the project? - How did you and your team members respond when quality standards were not met? - What happened when project outputs were not met with regard to quality?

Communication	▪ Were the lines of communication clear for all parties throughout the project's duration? ▪ Did you ask all parties whether they felt they were properly informed and consulted as the project progressed? ▪ What type of communication worked well and what did not? ▪ If communication during the project was not as effective as it could have been, how could it be improved? ▪ Could a process be implemented to improve communication flow? ▪ Would tools such as progress reports, weekly meetings and brainstorming sessions encourage more open and effective communication?
Finance	▪ How efficiently and effectively were the finances planned and managed? ▪ How did you and your team monitor the way money was spent? ▪ Were you able to reconcile your budget against the actual expenditure? ▪ Did your system rely on the use of computer-based records? How were these kept up to date? ▪ How would direct and indirect costs estimated be tracked and managed? ▪ Did you have a thorough understanding of the project's finances throughout its duration? ▪ Did you call on the assistance of financial specialists? ▪ How would you manage project finances next time? What changes would you make?
Resource use	▪ How well were resources used? ▪ Did you have a system to help you determine the way resources were allocated? ▪ How effective were the systems you used for planning and monitoring resource use? ▪ How did you decide on the resources needed? ▪ Were the resources allocated sufficient? ▪ How useful or effective was each resource used? ▪ Were the systems you used the same for all resources: staff, services, raw materials, support materials? If not, why not? ▪ How could your resource allocation systems be improved?
Risk management	▪ How effective were the plans? ▪ Did any of the potential risks occur? If so, were the contingency plans appropriate and adequate? ▪ Were all project team members familiar with the risk management strategies and plans? ▪ What might you do next time to reduce or manage project risks?

Involving team members in the review process

Depending on the size of the project, there are a number of ways you can gain input from the project team to assist in the review process.

Project reviews should involve the consultation and input of relevant project stakeholders. This may involve a series of one-on-one interviews with project team members, a team meeting or distributing questionnaires for team members to complete.

Consultation with other key personnel can provide vital feedback on project performance and management practices and also gives you an opportunity to thank each team member for their contribution and achievements.

Team review meetings

A formal team review session will help identify improvements in the organisation's project management performance, which can continue to benefit client and stakeholder needs.

Conducting a review in a team environment can be very productive. It enables stakeholders from various areas of the project to have their say and contribute to the overall knowledge of sponsors and managers.

The key to running a successful team review meeting is to establish guidelines and facilitate the process so everyone who wants to provide input has that chance.

Once the meeting is over, collect all the information and record it in your project review documentation. Identify the techniques everyone agreed would be effective to make use of in future.

Here are some questions that may stimulate discussion and input:

- Were the objectives, outcomes and performance targets achieved?
- What did we learn about scheduling tasks and resources that could help us in our next project?
- Were the resources allocated to the project sufficient? If not, why not? How could we allocate resources better next time?
- Was staffing sufficient? Were skills appropriate and used well? What did we learn about staffing issues?
- Did our stakeholders, senior managers, customers and sponsor/s participate effectively? If not, how could we improve their participation?
- Are you satisfied with your achievements in the project? If yes, why? If not, why not?
- Which methods or processes worked particularly well?

- If we could change anything about the project, what would we change? What might we do differently next time?
- What were the constraints that had the biggest impact and how were these handled?
- How effective were the project management practices?

Example

Team review meeting

After the completion of a five-kilometre section of a major freeway in Melbourne, the group program manager asks key staff and government stakeholders to attend a review meeting. This process ensures those involved at every level of the project are able to provide input into the company's continuous improvement system, as well as share the successes and failures of this four-year project.

Given the scale of the project, the meeting is held in a small auditorium with microphones made available for participants. The meeting is run by a professional facilitator who assigns roles to various members of the team to take notes, record observations and create a draft report presentation at the end of the one-hour meeting.

The types of issues raised include task-specific issues (which may seem small in proportion to the overall project, but are significant to the team members who raise them) through to government concerns about delays and budget overruns.

The input is summarised by members of the team at the end, and an agreement is made to submit a final report to the CEO and government minister within a month of the meeting.

Practice Task 17

Question 1

Which of the following statements are correct? Tick all that apply.

○ A project review must include an evaluation of the initial scope and plan.

○ Project management practices should be reviewed as part of the evaluation process.

○ Reliable data sources include media reviews, customer complaints and feedback from project team members.

○ Project documentation should be used in a review, but only if it is easily accessible and relevant to the evaluation process.

Question 2

What are two advantages of involving the project team in the final review process?

4D Document feedback and improvements

Once the project management team has finalised all project documentation and the project is signed off, a review enables the identification of lessons learnt and improvement opportunities.

Projects are unique one-off tasks and events; however, they offer learning opportunities that can be applied to future projects.

It is essential that all projects are reviewed and analysed for future learning and continuous improvement purposes so that management team members gain insight and experience that can benefit future initiatives of the organisation.

Identifying the lessons

The more experience you have in project management, the easier it is to plan and prepare for future problems that arise in other projects.

Every time you undertake a project you learn something new. Important lessons can be identified from the way the project was conducted, the effectiveness of the administrative and support tasks undertaken, and whether the project ultimately achieved its goals.

You can also evaluate performance in various stages of the project to determine whether the planning, execution and conclusion phases of the project were effective. The review can then be used in subsequent projects and other activities undertaken by the organisation with a view to continually improving the operation of the organisation's future projects.

Enhancing your learning

Upon completion of every project, it is useful to reflect on what worked well and what could be improved upon – these are called the lessons learnt.

Once the project has been completed, a discussion should be scheduled with the project team as well as other key project stakeholders to discuss what was learnt from this project. Authorities frequently included in a review session are the project manager, project controller, SMEs, supervisors/line managers, the client and other sub-contractors/vendors.

To identify the lessons gained from a project, review the following key questions:

- What worked well and what didn't work well?
- How would you manage the various aspects of the project – such as risk, quality, costs, scope, time, communications and human resources – differently if you were able to start the project over?
- How did you communicate with your project team?
- What changes occurred during the project and how were these handled?
- How were project schedules, risks, costs, scope and resources planned and was this accurate?
- How were project conflicts and issues identified, communicated and resolved?
- What conflicts were not anticipated?

Making recommendations

The lessons learnt must be accompanied by recommendations that are documented and made available to stakeholders for future projects.

Recommendations for future project work should be identified and documented as part of a project completion report.

When formulating your recommendations in the completion report, consider the following guidelines:

- Support your recommendations with verifiable evidence.
- Avoid bias and subjective opinions.
- Be clear and to the point.
- Avoid over-emphasising or over-selling your recommendation – leave the decision up to the stakeholders.
- Explain what the recommendations will achieve in terms of benefits to the organisation or client.
- Summarise any issues and action taken to avoid them in the future.

Opportunities for improvement

Project work is often about continuous improvement and learning from experience.

Continuous improvement means making an ongoing effort to improve systems, products and services. It means having a practical understanding that organisational life is not about achieving perfection – rather it is about growth. As such, another positive outcome of completing a project review is to discover new ways of improving project management systems and practices.

These valuable lessons not only benefit individuals on the project team, but also the organisation, clients and other stakeholders.

The following list presents some examples of recommendations that can be made to improve project management processes:

- improving the use of project management tools and methods
- increasing/decreasing authorisation levels
- changing preferred suppliers
- using a specialist consultant for various parts of the project management process
- seeking fixed quotations on supply of goods
- eliminating inefficient steps in the process
- introducing waste and loss prevention strategies
- increasing the frequency of reporting
- increasing/decreasing stakeholder input and engagement.

Documenting improvement opportunities

By recording the lessons learnt and sharing them with others, you build your knowledge and abilities and help other project managers do the same.

Documentation of lessons and recommendations will usually form part of the formal project closure or review report that is distributed to the key internal project stakeholders. Your document should be a brief overview of what you have learnt. You may choose to attach more detailed information about what you have learnt as an appendix to your main report. It could contain any recommendations, enhancements or modifications to the process discussed.

Sometimes, review reports contain confidential information that should not be made available to the wider organisation. For example, there may be information about a person's performance, contract details, financial data, supplier information or feedback that is considered appropriate only for management to see. Use your discretion and knowledge of the organisation and its policies to decide what information is disseminated to staff.

There are five questions you should ask when identifying lessons learnt from a project:

- What are the key learning points about this project?
- What could be done differently?
- What recommendations do you have for future projects?
- Which management and quality processes went well, went badly or were lacking?
- How much effort was required to complete the project (was it more, the same as or less than anticipated) and why?

> ### Example
>
> ### Review of project lessons learnt
>
> After completing a shop refurbishment, coffee retailer (and part-time project manager) Roberto, sits with his staff and contract builders to discuss and review the process.
>
> The project encountered a few hitches, including a longer-than-expected disruption to customers, who had to be served via a side window while the building was underway, and two safety issues involving staff working in the construction area. Overall, however, Roberto is full of praise for his team and the contractors who completed the job within budget and to a very high standard.
>
> In comparing the original objectives and the final outcomes, Roberto notes that the refurbishment has been completed 3 per cent under budget, but 10 per cent over the projected time. He estimates that the delays cost more in potential business than the 3 per cent he saved. He raises this with the builder during the meeting to discuss solutions.
>
> Roberto notes all the suggestions. He then reviews the outcome of the meeting with a fellow coffee shop owner. She decides to use some of the recommendations in her upcoming refurbishment project to ensure her project's costs remain more stable and predictable.

Practice Task 18

Question 1

Which of the following guidelines apply to documenting recommendations and improvements? Tick all that apply.

○ Support recommendations with verifiable evidence.

○ Include bias and subjective opinions.

○ Always over-emphasise a recommendation.

○ Explain what the recommendations will achieve in terms of benefits to the organisation.

○ Summarise issues and action taken to avoid them in the future

Question 2

What five questions should be asked when identifying lessons learnt from a project?
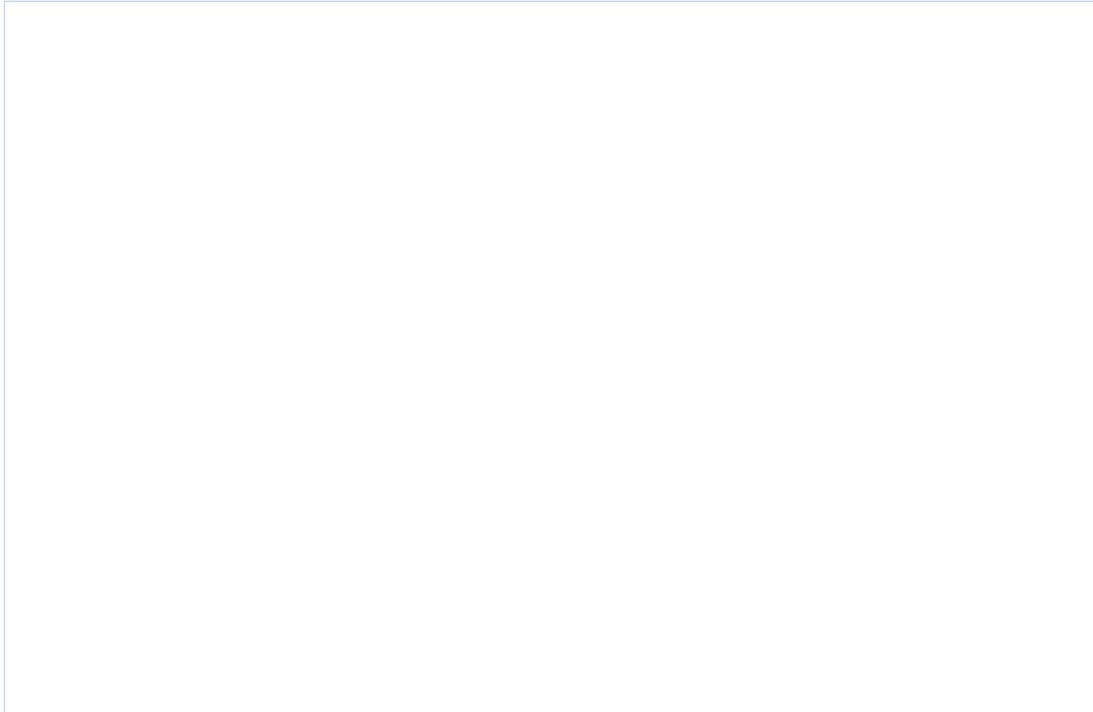
Summary

- Checking actual expenditure against the original or revised budget is an essential part of the project closure phase.
- As part of the project finalisation phase, all documentation needs to be updated, completed and handed over to the relevant project authority for sign-off.
- Since project management is an iterative process, the plans must be reviewed, adjusted and finalised to reflect the changes that occurred throughout the project's life cycle.
- A final project report can be produced to communicate project outcomes to key stakeholders.
- A project evaluation or review is a quality assurance mechanism conducted at the end of a project. When undertaking a project review, you must return to the original project plans and compare these documents to the project outcomes.
- When reviewing a project, there are often key areas where the outcomes need to be identified as better or worse than planned.
- Project team members need to be managed in a sensitive manner following the end of the project. This may include transitioning into other roles where possible, or ending their contracts.
- A formal team review session can be used to help identify improvements in the organisation's project management performance, which can continue to benefit client and stakeholder needs.
- Projects are unique, one-off tasks and events; however, there are always improvement opportunities that can be applied to future projects.
- Once the project has been completed, a discussion should be scheduled with the project team, as well as other key project stakeholders, to discuss what was learnt from this project.
- At the project's completion, document what you have learnt so it can be applied to future projects.

Learning Checkpoint 4
Finalise and review the project

Part A

1. Number the steps from 1 to 6 in the order you would follow to transition project team members once a project is complete.

   ◯   Provide training, coaching or mentoring to upskill people for new internal roles.

   ◯   Personally introduce the person to their new manager.

   ◯   Facilitate a team debrief to communicate and celebrate achievements.

   ◯   Use forward planning to determine potential new roles or ending contracts.

   ◯   Conduct a performance appraisal on team members.

   ◯   Offer exit interviews for people who are leaving the organisation.

2. What are two actions you would take when checking the accuracy of financial records at the conclusion of a project to determine actual versus budgeted expenditure?

3. What are the five steps you would take when finalising project documentation?

Part B

Read the case study, then answer the questions that follow.

Case study

John works in marketing for a medium-sized online retail business. He has been leading a project with two staff members that involved setting up a new online customer rewards program. The project also involved working with an I.T. consultant, the marketing manager and a third-party consultant who specialises in online business. The rewards program has been implemented as part of the existing website and has now gone live.

The project sponsor is a business owner named Kerry. She would like John to prepare a final project report that explains the overall performance and outcomes based on the initial project plan and budget.

1. Who should John consult with to review the project outcomes and identify the lessons learnt?

2. List five types of information that John needs to include in the final project report.
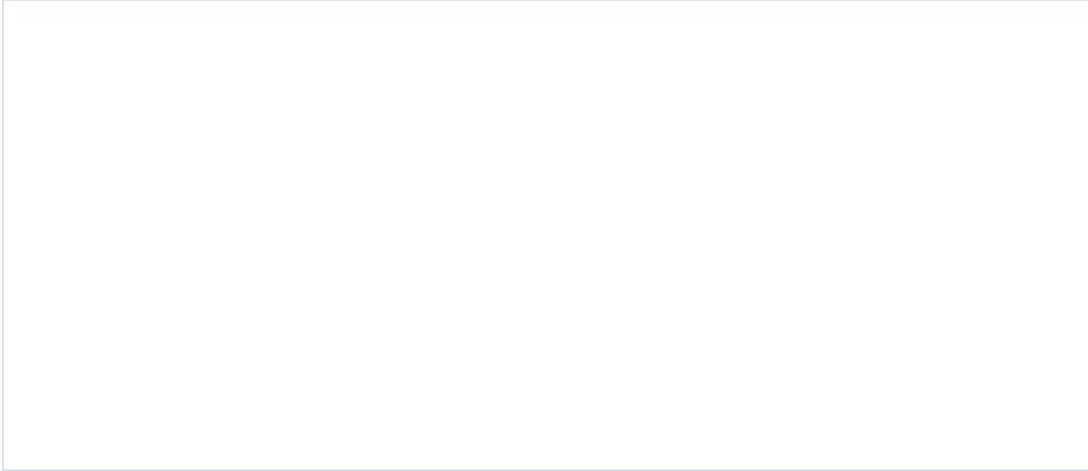
3. Explain how John should set out his report to ensure the information is clear.

4. How and why should John submit the final project documents to Kerry for her approval? Write two to three sentences.