# Apply project quality management techniques

**Learner Guide**

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# 1. Contribute to project quality planning

## 1.1 – Contribute to determining *quality requirements* of project stakeholders

### Quality requirements

In order for any project to be successful and to meet its goals and outcomes, it needs to meet all of the identified quality requirements.

**These quality requirements may be:**

➢ Acceptable tolerances and variation to specifications

➢ Explicit and implicit performance expectations

➢ Product and service specifications.

Any results or outcomes that are outside of these parameters can be deemed as below the quality requirements of the project.

### Project stakeholders

A stakeholder is a person or group of people who have an interest in the project.

**Examples of project stakeholders may be:**

➢ Employees

➢ Business owners

➢ Creditors

➢ Suppliers.

As these persons have an interest in the project, they can contribute to setting the expectations and requirements for quality.

When you are involved with a project in any capacity, you will need to ensure that you are aware of and can contribute to the quality requirements of the project.

### Stakeholders and quality

In order for the project to be successful and to be of sufficient quality, all identified stakeholders must be aware of the quality requirements and how these will be planned, maintained and achieved. When the project's quality levels drop or slip, the project can be at risk of failing to reach its objective(s); this is why all stakeholders must be aware of and understand the quality requirements and can work towards achieving these together.

<u>**How important is the stakeholder?**</u>

You should identify each stakeholder and analyse just how important they are to the completion of the project. To do this, determine how much influence the stakeholder has on the project; do they have the ability to significantly affect the project's outcomes in a positive or negative way?

All stakeholders must be properly briefed on their role in the project and must understand exactly what is expected and required of them.

## 1.2 – Contribute to identifying quantifiable *quality criteria* for project deliverables

### Quality criteria

Quality criteria can be used as a framework for working towards achieving quality requirements. These criteria are given as benchmarks and expectations by which the actual performance will be measured; results that achieve above and beyond the criteria can be deemed exceptional, whereas results that do not meet criteria can be deemed insufficient, below quality and sometimes negligent.

**Quality criteria may include:**

> ➢ Australian and international standards
>
> ➢ Codes of conduct
>
> ➢ Industry and organisational policies and practices
>
> ➢ Legislation and regulation requirements.

#### Australian and international standards

Depending upon the nature of your business and your project, different Australian and international standards may apply. Industries like education, care and health especially will have to adhere to different laws and standards.

#### Codes of conduct

Codes of conduct can be defined by the organisation or by industry bodies and set out standards that are expected of organisations undertaking projects. Adhering to codes of conduct can improve the quality of your project's deliverables.

#### Industry and organisational policies and practices

Any standard policies and practices that the organisation identifies with or are expected to adhere to should be factored into the project and its plans. These can become expected by your consumers and partner companies as an industry standard.

#### Legislation and regulation requirements

Legislation and regulations are set by law and must be adhered to; you need to know what laws and regulations are applied to your role and organisation, as well as how these affect your industry.

### Quantifiable criteria

Quantifiable criteria can be measured in order to gauge the extent to which project progress and deliverables are meeting targets and other requirements.

Quantifiable criteria are useful because they provide an identified target, requirement or goal that can be measured and assessed. Quantifiable criteria allow you to determine just how well a project or element of the project is doing and to take the appropriate action, if required.

**To contribute to identifying quantifiable criteria, you must understand:**

> ➢ What the project is
>
> ➢ What is aims to achieve
>
> ➢ How the project will work
>
> ➢ The deliverables
>
> ➢ Other values.

For example, if a project aims to increase the number of customers visiting a store, your quantifiable criteria could define a target number of visitors. This would enable you to determine when the goal has been met and to gauge how well the project is going.

## 1.3 – Source *information* to locate and interpret quality policy and procedures

### Quality information

Quality policies and procedures will be explained and defined in different information sources; these will vary according to the type of policy and procedure and the information the organisation uses.

**Information may come from:**

> ➢ Designated standard operating procedures and regulations
>
> ➢ Organisation and project standards
>
> ➢ Organisational quality management policy and guidelines as applied to specific requirements of a project
>
> ➢ Project quality guidelines and instructions.

**These sources may be accessible:**

> ➢ Through company literature
>
> ➢ Through communication with a supervisor or other relevant colleague.

As well as locating and accessing information on policies and procedures, you must also understand them; it is your own responsibility to ensure that you understand the quality policies and procedures that apply to your industry sector, your organisation and your project.

Where relevant information is unavailable, you should communicate with a relevant colleague, such as a co-worker or supervisor who will be able to advise you or obtain copies of the information.

## Policy and procedure

Policies and procedures are put in place by an organisation to regulate quality and methods used for different activities.

**In order to maintain quality:**

➢ Procedures are put in place to outline the methods that are allowed to be used and how they must be conducted. Controlling how outcomes are achieved helps to maintain quality by restricting bad practices and requiring staff to follow the designated procedure(s).

➢ Policies outline the organisation's values and quality standards. Policies are put in place to uphold quality and to reflect the organisation's values and decisions. For example, a business' refund policy outlines the circumstances and conditions under which a refund may be given and is upheld to ensure that deserving customers can obtain refunds when they need them; the conditions of the policy can also protect it from misuse and can be given as a reason when refusing to honour an inappropriate refund request.

## 1.4 – Contribute to developing quality requirements in the project plan and processes

## Quality requirements

Quality requirements are similar to quality policies and criteria, which define the terms and targets of project work respectively; quality requirements state directly what must be achieved and undertaken for the correct level of quality to be achieved.

**For example, a sandwich bar is currently undertaking a project that seeks to improve and maintain quality, following a spate of bad reviews.**

➢ Policy:

o Would you buy it? Only sandwiches of a quality you would be happy to buy yourself can be sold to customers.

➢ Criteria:

o Customer satisfaction must average a minimum of 95 per cent over the next four weeks.

> ➢ Requirements:

>> ○ All products must be prepared with fresh bread delivered that morning, fresh ingredients, be presented neatly and must have enough filling. Staff must communicate with customers to resolve any problems before they become issues.

In this instance, the organisation's policy of 'would you buy it?' maintains quality by requiring that staff personally approve food before it is served. The criteria gives a quantifiable goal of 95 per cent customer satisfaction, which is a concrete goal that the staff can aim for and judge their work by. Quality requirements directly states that food cannot be prepped or served unless it had fresh bread, fresh filling, is presented neatly and is filled enough; any dishes that do not meet these requirements cannot be served, thus maintaining quality.

These three elements can work together on a project to ensure that quality is achieved and maintained.

## Developing quality requirements

**When you are required to develop or help develop quality requirements, you will have to:**

> ➢ Understand the project

> ➢ Understand the project's deliverables

> ➢ Understand how these deliverables can be achieved

> ➢ Understand the standards that must be adhered to in order to achieve and maintain the required quality.

Using the above example, you would need to understand what needs to be done to achieve the project's outcomes, which in this instance would be higher levels of customer satisfaction.

**In order to set the following quality requirements, you would need to understand what is important when achieving the outcomes:**

> ➢ Fresh bread

>> ○ Stale or poor quality bread can ruin the whole sandwich and have a serious impact on the customer's experience. Stale or bad bread shows the customer that standards are not highly maintained and that the staff are not willing or able to take pride in their work.

> ➢ Fresh ingredients

>> ○ Similar to bread, customers expect good quality ingredients in their food, equal or greater to the ones they would prepare and use themselves.

> ➢ Sufficient filling

>> ○ Poorly filled sandwiches are not perceived as good value for money and will leave the customer feeling like they have been short-changed, especially if they are still hungry.

> ➢ Neat presentation

- o No matter how good and fresh the ingredients are, if they are carelessly thrown together and dumped on a plate then the customer will pick up on the fact that the staff do not care about their work and the customer and will develop a negative impression of the organisation.

- ➢ Customer contact

  - o When customer contact is negative, rushed or otherwise unpleasant and unsatisfying, this can affect the customer's whole experience with the organisation, no matter how good the food is. Great customer contact can be the cherry on the cake for a happy customer or can be the last straw for an unhappy customer; poor customer service can also dissatisfy a customer who was otherwise happy until that point.

By understanding how the business works, you can identify quality requirements to achieve the given project. In the example above, all of the elements need to work together to provide an experience for the customer that is positive overall.

When developing quality requirements you need to understand the different factors that can positively or negatively affect the project; this means examining aspects of the business that directly affect the focus of the project. In the sandwich bar example, there would be little point investing money into better stock if the staff were all rude and careless.

# 2. Apply quality policies and procedures

## 2.1 – Implement *quality assurance* in the project according to agreed quality standards and guidelines

### Quality assurance

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

**Quality assurance may include:**

> ➢ Systematic review of the project-management process to ensure compliance with organisational policy and guidelines

> ➢ Project finalisation process to capture lessons learned and to enable continuous improvement.

### Systematic review

This method reviews quality management throughout the project to ensure compliance with organisational policy and guidelines. This allows any problems to be detected and dealt with early in an effort to minimise damage to the project's quality. Establishing a systematic review is good practice because it means that the project will be automatically managed.

In project quality management terms, constantly monitoring project activities for quality would allow you to identify any instances whereby any activities become ineffective or inefficient, in order to ensure that the project and its endeavours are contributing directly to the purpose and objective of the project.

### Continuous improvement

In order to improve future practices, continuous improvement methods are used by many organisations; continuous improvement seeks to continually improve practices and methods, as opposed to repeating past mistakes and allowing processes to stagnate.

In project quality management terms, this means continually analysing actions and their results and optimising the current and future processes in order to maintain the quality of the project and its components.

### Lessons learned

Lessons learned are where an organisation identifies a past mistake or ineffective process and takes steps to improve this process and avoid repeating the mistake.

In project quality management terms, this means utilising improvement information gathered from past endeavours to avoid repeating mistakes and to increase the efficiency and effectiveness of the current project.

## Implement quality assurance

When you are tasked with implementing quality assurance you will need to have an understanding of the above elements in relation to your project.

**This means:**

- ➢ Reviewing the project's current progress and methodology, in terms of:

  - o Your own work

  - o Your colleagues' work

  - o The project overall

- ➢ Implementing continuous improvement systems, in terms of:

  - o Using amended and improved methods and processes

  - o Recording and communicating methods and processes that could be improved

- ➢ Applying lessons learned:

  - o Using your knowledge and experience of past mistakes to improve things this time around and avoid repeating mistakes

  - o Applying improved methodologies in line with organisational policies and processes.

If your organisation uses any additional or different quality assurance processes, you should ensure that you are aware of these and that you understand how to implement them effectively and efficiently.

## 2.2 – Select and apply *quality management tools and methodologies* to project processes according to organisational policy

### Quality management tools

When you are managing project quality, there are several different tools and methodologies you may be able to use.

**Quality management tools may include:**

- ➢ Cause and effect diagram:

  - o Fishbone

  - o Ishikawa

- ➢ Control charts

- ➢ Flowcharting

- ➢ Histogram

- ➢ Pareto chart

- ➢ Root cause analysis

- ➢ Run chart

- ➢ Scatter diagram.

The type of tools you use for monitoring the project's processes will vary according to what the project is and your organisation's policies and procedures.

**Your organisation may specify:**

- ➢ What processes to monitor

- ➢ What tools you should use when monitoring project processes

- ➢ Which tools to use to manage which processes.

## Quality management methodologies

There are also different types of methodology you can use to monitor a project's quality. These can be used as a standalone method or in conjunction with management tools.

**Quality management methodologies may include:**

- ➢ Continuous improvement process

- ➢ Lean management

- ➢ Six Sigma

- ➢ Total Quality Management.

Again, the quality management methodologies you can use will be determined by the type of project and processes you are managing, as well as your organisation's policies and procedures.

You will need to apply your knowledge and understanding of the different tools and methodologies as well as the project in order to determine the most suitable and effective options.

## 2.3 – Maintain *quality-control* records and audit documentation according to agreed procedures

### Quality control

Project quality management and control should be documented in line with organisational requirements and agreed procedures. This allows you to maintain an accurate record of current and past project information and contributes to continuous improvement processes and allows you to document lessons learned.

Different quality control actions may require mandatory documentation, such as inspections and audits; in these instances, you will have to maintain records and documents in line with organisational and legal requirements.

**Quality control measures may include:**

➢ Inspections and audits in compliance with guidelines

➢ Monitoring conformance to the specification

➢ Recommending ways to eliminate causes of unsatisfactory performance of products or processes

➢ Regular inspection by the individual or the monitoring of inspections by internal or external agents

➢ Reporting variances.

Unless you record your findings and observations, there is often little point in doing them; even if the reporting and recording of the quality control is not mandatory, if the information is not recorded and communicated then it is unlikely to be remembered, communicated and actioned.

Your organisation will make you aware of the recording and maintenance requirements of quality control information, in terms of organisational requirements and legal requirements.

Quality control records should be kept so that they can be referred back to in the event of a future query or issue. Some records are required by law to be kept for a minimum amount of years; this can be particularly true of audit documentation.

Your organisation will have a procedure in place for recording and storing different information; it is important that this procedure is followed, in order to ensure that the required information is recorded and stored in the correct place so that it can be easily accessed.

## 2.4 – Determine and maintain compliance records against agreed quality requirements

### Compliance records

You may be required to maintain compliance records that detail the extent to which your project's processes and activities are or were compliant with given quality requirements. These records will contribute towards continuous improvement and will also be a point of reference for future enquiries.

## Determine compliance records

In order to determine the levels of compliance for your records, you will need to identify quality requirements.
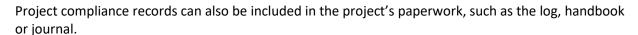
**The quality requirements of the project may concern:**

➢ Efficiency:

  o Timeframes and deadlines

  o Resource allocation and expenditure

  o Budgets

➢ Effectiveness:

  o The extent to which the efficiency targets have been met

  o Whether project outcomes and deliverables were met.

When you have determined how efficient and effective the project's processes were, you can determine how compliant the project was; this information is what will be recorded in the compliance record.

## Maintain compliance records

**The compliance record may be:**

➢ On paper:

  o An entry in a dedicated Compliance Record book

  o A single sheet of paper

  o Graphs and charts

  o Summary sheets

➢ Electronic:

  o An electronic file

  o Electronic graphs and charts

  o Spreadsheets

  o Electric summary files.

Project compliance records can also be included in the project's paperwork, such as the log, handbook or journal.

## 2.5 – Report shortfalls in quality outcomes to *others* to enable appropriate action to be initiated

### Reporting shortfalls

All identified shortfalls should be recorded and documented, as explained in the previous chapters; this information should be

communicated to relevant others who can initiate the appropriate action to combat and resolve the issues now and in the future.

**Appropriate others may be:**

> ➢ Higher project authority
>
> ➢ Organisational quality management
>
> ➢ Project managers
>
> ➢ Project specialists and other personnel
>
> ➢ Team members.

These personnel will be trained in how to develop and implement plans and resolutions; it is important that you record all of the relevant and required information clearly and in line with organisational requirements and standards.

Using compliance records, quality criteria, quality assurance and other methods and tools covered in this unit will provide you with data on quality performance and will allow you to identify and shortcomings.

# 3. Contribute to project continuous improvement process

## 3.1 – Participate in ongoing review of project outcomes to determine effectiveness of quality management activities

### Reviewing the project

Project outcomes should be reviewed in an ongoing way in order to assess the effectiveness of quality management activities.

During a project, this means assessing whether the project is on track to achieve the project goal(s) within given parameters; if the project is on track or doing better than expected, then the quality management is currently working effectively.

After a project, this means assessing whether the project achieved its outcomes and quality criteria; if it has, then the quality management can be considered successful.

You can determine the effectiveness of the quality management by using various tools and methodologies to assess the quality of the project, as explained throughout this unit.

**Quality management tools may include:**

> ➢ Cause and effect diagram:
>
>> o Fishbone
>>
>> o Ishikawa

➢ Control charts

➢ Flowcharting

➢ Histogram

➢ Pareto chart

➢ Root cause analysis

➢ Run chart

➢ Scatter diagram.

**Quality management methodologies may include:**

➢ Continuous improvement process

➢ Lean management

➢ Six Sigma

➢ Total Quality Management.

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

Each project should be examined in terms of quality in order to gain the maximum benefit of continuous improvement.

## 3.2 – Contribute to stakeholder satisfaction analysis to ensure expectations have been met

### Stakeholder satisfaction

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

### Satisfaction analysis

Stakeholder satisfaction should be measured and analysed in order to gauge the success of the project. This information can be used to improve the quality of future projects.

**The way you gather satisfaction information from stakeholders will depend upon:**

➢ Who they are

➢ Their level of seniority

➢ Preferred contact methods

> ➢ Organisation procedures

> ➢ Specific request.

**Example collection methods may be:**

> ➢ Survey

> ➢ Focus group

> ➢ Interview.

For example, when gathering information from a large number of staff who worked on the project you may choose to use a feedback form that can be delivered online or on paper. These results can be collated to produce an overall result, as well as individual feedback, if required.

For stakeholders who have a higher level of seniority and authority, such as business owners, directors and client representatives, it may be more practical and professional to interview them. The interview will generally be a one-on-one experience over the phone or face to face and offers a more tailored experience for the interviewee. This allows you to speak with the stakeholder directly so you can ask all of the relevant questions and collect their input.


## 3.3 – Report quality management issues and responses to others for application to future projects

**Reporting issues**

This entire unit has focused upon managing the quality of project work; a major element of quality management is continuous improvement. In order to facilitate continuous improvement, issues that affected quality must be identified and recorded, so that appropriate action can be taken in the future.

**The way you report quality management issues will need to follow the procedures in place at your workplace; this may involve:**

> ➢ Using the correct forms and formats

> ➢ Communicating information to certain people

> ➢ Timeframes

> ➢ Submission guidelines

> ➢ Content.

Your report may already contain information about a response that has been or could be implemented as a resolution.

Solutions and improvements then will be devised, which should be communicated to the participants of the next project in order to improve and maintain project quality in the future.