



Learner Guide

RIIQUA401D

Apply a quality management system on site

Document history

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Introduction: Unit/s Description

Required Texts / Reading

The only required text for this course is the **learner guide** and any additional hand-outs / text resources your trainer provides during your classes.

The Learner guide

This learner guide provides the required information to engage in class activities and explains in detail the processes by which to use the applied knowledge as well. It is essential that you learn from both guide and trainer in order to complete the related assignments. The learner guide can be used by students as a supporting resource for both the class and workshop environment.

Purpose of the unit

The purpose of this learner guide and in-class training is to provide the necessary background to:

- Implement quality processes
- Make recommendations based on performance that has been monitored and reported on
- Consolidate opportunities for further development

In-class work and Assessment

For each course you will engage in any number of written and practical assessments. In some cases an assessment workbook will be required for you to complete. *For this cluster however, you will engage in class activities that will lead to the following practical assessment:*

Written Assessment

Practical Assessment (observed at least twice)

Unit Outline Information for students

Unit Title	Apply a quality management system on site
RIIQUA401D	This unit replaces RIIQUA401A Apply a quality management system on site.
Unit Summary This unit describes a participant's skills and knowledge required to apply a quality management system on site in the Resources and Infrastructure Industry. This unit is appropriate for those working in supervisory and technical specialist roles and provides the instruction and knowledge base for the following: 1. Implement quality processes 2. Make recommendations based on performance that has been monitored and reported on 3. Consolidate opportunities for further development	
Prerequisites - N/A	
Assessment Method	
Delivery: • Classroom based • Workplace based Assessment Tasks: • Exam • Practical Observation Re-Assessment: Re-assessment for a completed assessment that is deemed Not Satisfactory will be rescheduled as soon as practical.	
Prescribed reading: Learner Guide	
Knowledge Evidence:	
The candidate must demonstrate knowledge of the following when applying a quality management system: • Accessing, interpreting and applying the organisation and site requirements and procedures • Key aspects of the organisation's quality system • Quality management plan procedures and requirements • Human resource management principles • Continuous quality improvement processes • Quality management plan monitoring and review procedures and processes	
Performance Evidence:	
Evidence is required to be collected that demonstrates a candidate's competency in this unit. Evidence must be relevant to the roles within this sector's work operations and satisfy all of the requirements of the performance criteria of this unit and include evidence that the candidate: • Locates and applies relevant legislation, documentation, policies and procedures • Works effectively with others to undertake and complete effective application of a quality management system to meet all required outcomes including: ○ Preparing for and organising work activities to meet all task requirements ○ Communicating clearly and concisely with others to receive and clarify work instructions ○ Using a range of communication techniques and aids to advise others of work	

activity and exclusion zones

- Demonstrates completion of the application of a quality management systems that safely, effectively and efficiently meets all of the required outcomes on more than one (1) occasion including:
 - Provides encouragement and support to team members
 - Participates in decision making processes
 - Clearly and concisely communicates information
 - Monitor systems and technology, recommends and documents areas of improvement
 - Document work performance
 - Manages, processes and maintains written records and reports

Study Guide Overview

About your study course

As a student, In-service worker, you most likely have already come to the understanding of the practical skills and knowledge required to work within the industry standards that are part of the engineering/manufacturing field. This course seeks to guide you towards developing those skills and knowledge. In addition, you have both a time and financial investment that makes it a personal challenge. As such, help us to help you take 'responsibility' for your own learning. Talk to the trainer and request student support if desired.

Be receptive towards your learning process and reinforce your studies with self-learning wherever possible.

Getting the most out of your study

- Talk to your trainer / facilitator and ask questions. They are experienced and able to assist you with your enquiries where possible
- Carefully choose your time and place to study outside of the class or in an environment that is comfortable and effective for learning
- Make a schedule to study and talk about your studies with your peers (many hands make light work and there is often value in collaboration)
- Consider how the learner guide information relates to what you are doing
- Seek feedback on your work and study to ensure you are on the right track and re-affirm your effective studying habits
- Make notes, use highlighters, use colours (for the visual learners), underline stuff, scribble memos, and decorate your desk with post-its – whichever approach works best for you
- Read your work examples aloud (to yourself – sometimes as a potential strategy it helps you to understand something by reading it aloud and also to identify areas for consideration)
- Consider the student activities in the learner guide to reinforce your learning as you go
- Please advise if you are having issues. We would like to assist you to make this a positive learning experience.

Required Texts and Recommended Readings

Throughout your course you may be introduced to texts and recommended reading materials for your studies from your trainer. Take note of these. In the meantime, we have compiled a list of resources (see the *Table of Contents* for the 'recommended further readings' page that follows the conclusion).

The learner guide and experienced trainers are generally sufficient to help you meet the requirements though it never hurts to have further materials that you might like to seek out for your own purposes and continued learning.

Available Resources and Support

Aside from the learner guide (available online for certain courses), trainer access, and recommended texts, Careers Australia understands that 'real life' gets in the way and we all need assistance from time to time. Or you simply have a general question about the course.

For general course enquiries, please contact +61 1300 887 696 or enquire online <http://www.careersaustralia.edu.au/#/enquire/>

For direct student assistance (help with studies) we have a Student Support Services section.

Please advise your teacher / trainer of your circumstances. You may be referred or contact them directly as required.

Please contact +61 1300 887 696 and ask for your campus's Student Support Services section.

For Bowen Hills students please call: (07) 3620 0722

Referencing Guide

Information has a source and referencing provides the pathway to that source. You will be required to reference if you are providing written submissions that includes work which has been sourced from copyrighted materials that are not your own. In many cases you will be simply referring to your learner guide to provide a written response to a question.

In all other cases, we would recommend using a referencing system. There are two accepted types in Australia (APA & Harvard).

For your convenience, we have provided the following links to download either document for use in your studies.

<https://www.library.uq.edu.au/help/referencing-style-guides>

APA Referencing guide link

https://www.library.uq.edu.au/_/filething/files/get/referencing/apa_6%202.pdf

Harvard Referencing guide link

<http://guides.lib.monash.edu/citing-referencing/harvard>

https://www.adelaide.edu.au/writingcentre/referencing_guides/harvardStyleGuide.pdf

Chapter One – Implement quality processes

By the end of this chapter you will understand:

- Access, interpret and apply quality management documentation and ensure the work activity is compliant
- Actively encourage and support, team members to participate in the quality management plan decision making processes and to assume responsibility and authority
- Provide information on the quality management plan in a language, style and format that is understood by all personnel
- Provide coaching and mentoring support to individuals and teams to maximise implementation of the quality management plan
- Maintain the quality management plan while implementing the quality requirements of other site processes

1.1 Access, interpret and apply quality management documentation and ensure the work activity is compliant

1.1.1 QUALITY MANAGEMENT AND ITS PURPOSE

Quality management systems are complex sets of policies, procedures and actions that are put in place within an organisation in order to ensure that each phase of each task that is conducted within an organisation are planned and controlled in a manner to ensure that specific benchmarks of quality are able to be consistently achieved throughout all operations.

Quality can be related to:

- Outcomes
- Safety
- Records
- Consistency
- Productivity
- Efficiency
- Compliance
- Alignment with organisational goals
- Continual improvement



Quality management plans set out the levels of quality within the workplace that are deemed to be acceptable. The quality management plan will set out a range of policies, procedures and actions that will be required in order to successfully manage quality levels in the workplace.

The quality management plan will focus on the following main areas:

- Work outcomes are designed to meet agreed requirements and standards
- Work processes are efficient and tracked effectively
- Issues of non-compliance with the quality plan are identified and corrected

1.1.2 COMPONENTS OF QUALITY MANAGEMENT PLANS

Quality management plans are designed to meet the specific needs of each organisation that they are implemented into, although most of them will follow a similar pattern and include a range of similar components.

The quality management plan is commonly made up of the following components:

- Objectives of the quality plan
- Key outcomes and deliverables
- Agreed standards for quality
- Quality control activities
- Quality assurance activities
- Roles and responsibilities of those involved with the plan
- Tools and forms required
- Reporting and responding activities for identified issues

1.1.3 THE QUALITY SYSTEM

Quality systems are made of three main components:

- Quality management plans
- Quality control activities
- Quality assurance activities

1.1.4 QUALITY MANAGEMENT PLANS

Quality management plans manage the outcomes and processes required in order to achieve these outcomes.

- Quality control activities - These activities are designed to ensure through a range of monitoring, reviewing and adjusting processes that quality can be controlled as per the quality management plan.
- Quality assurance activities - These activities are designed in order to monitor and verify the effectiveness of all of the activities within the quality management plan and its related quality control activities.

1.1.5 QUALITY IMPROVEMENT MODELS

Quality improvement models are a series of tools and processes that have been designed in order to effectively improve and uphold the quality standards that have been able to be achieved and set within the organisation.

Quality improvement models are designed to provide organisations with a structured method to analyse their processes and current quality standards and identify a range of quality improvement opportunities.

It is best practice to use several techniques to analyse each process. This will produce the greatest chance of discovering as many occurrences that can be improved upon by covering more aspects of each process. Once the problems are identified in a system, an organisation can then create solutions that will improve its quality systems.

There are a range of different quality improvement models that can be used in and these may include:

- Lean
- Six Sigma
- Total Quality
- Statistical process control
- Root cause analysis

1.1.6 LEAN

The lean model of quality improvement relies on an analysis of each of the processes that occur within an organisation with a focus on how waste can be minimised within the each of the processes.

Waste in the lean model may include:

- Time
- Staff
- Money
- Raw materials
- Electricity
- Water
- Assets

1.1.7 SIX SIGMA

The six sigma quality improvement model encourages the organisation to analyse the processes within the organisation from the following six angles.

Six sigma principles include:

- Customer needs analysis
- Process identification
- Managing and improving the process
- Streamlining the process further through waste reduction processes and the elimination of non-required steps
- Reduce variation in processes and improve consistencies
- Professional and skills development for staff
- Systematically improve each aspect of quality within the organisation

1.1.8 TOTAL QUALITY MANAGEMENT (TQM)

The total quality management system is a continuous and structured process that encourages all employees within an organisation to be involved in a range of quality issues identification activities that respond to feedback on quality improvement throughout the organisation.

1.1.9 STATISTICAL PROCESS CONTROL

Statistical process control is an industry approved standard quality improvement model that is used in order to effectively monitor and control variations in quality using statistical analysis.

Measurable factors of quality will be categorised as numbers and then plotted on a graph that will allow for a reasonable variation in quality, any figures that fall outside of the controlled variation amount will then need to be investigated and adjusted in order to ensure that all actions that are undertaken within the organisation will fall into the agreed parameters that have been set for quality.

1.1.10 ROOT CAUSE ANALYSIS

Root cause analysis is a structured quality improvement method that is designed to identify the actual cause of the quality issue in order for organisations to be able to effectively resolve the root cause of the issue and not be simply responding to a range of symptoms that may at first appear to be the cause of the issue.

Once a problem has been clearly defined and analysed and all relevant information related to the problem is known and understood it will be necessary to suggest a range of options that may be the cause of the problem.

It is important to remember that sometimes what may seem to be the obvious cause to a particular problem is in fact another symptom of the actual root of the issue.

It is essential to back track through the performance information, work tasks, process maps and accounts of the issue and determine exactly where the problem eventuated and why.

It is essential that this information is known otherwise relevant and appropriate solutions that are actually targeted towards the real needs of the organisation will not be able to be found or implemented and problem will not be effectively resolved.

1.1.11 SUGGESTING OPTIONS FOR IMPROVEMENT

When suggesting options for causes of a problem it is important to:

- Access all relevant information
- Back track through processes to find the initial cause
- Seek reasons and not blame
- Use a variety of different information

It is important to utilise a variety of different methods to ensure that all contributing factors are determined and identified. It can often seem clear that the cause of a problem is one thing but after a little investigation the real cause is often a little more hidden

1.1.12 ORGANISING AND PRIORITISING QUALITY INFORMATION USING TOOLS AND TECHNIQUES

Analysing information is the systematic process of examining the data collected in a way that illustrates the correlations, interrelationships and in patterns in data. It is important that analysis is conducted so that trends and developments that are shown in the information that you have collected about training needs and gaps can be reported on. These trends and developments can then be used to advice on issues and support training decision making. Understanding the intended use of the information is important when analysing and presenting raw data so that it can be formatted and delivered in a way that best suits the needs of the area that the information is intended to advise on.

Careful analysis of information can provide:

- The answers to certain problems
- The relationship between two or more different factors
- Why events have occurred
- The probability of an event occurring
- Information that leads to new ideas
- Supporting information for an existing theory
- Information related to performance

There are many different ways that data can be analysed to report on different types of trends, information or relationships.

Information that is intended to demonstrate frequency of occurrence, percentages or comparisons could be analysed and presented as a:

- Pareto Chart
- Cause and effect diagrams (Ishikawa/fishbone)
- Affinity diagrams
- Flow charts
- Run charts

Information that is intended to demonstrate a variation that is not related to time could be analysed and presented as a Histogram.

Information that is intended to demonstrate trends or patterns that occur over time could be analysed and presented as a:

- Control Chart
- Run Chart
- Line Graph

Information that is intended to demonstrate a relationship or correlation between two factors could be analysed and presented as a Scatter Diagram.

Selecting the most appropriate manner in which to analyse and present your information will ensure that your data is interpreted and understood as it was intended to inform on the need that it was acquired for.

1.1.13 PARETO CHART

Pareto charts are an excellent tool for managing quality control as the manner in which they present data enables the effective identification of the frequency of quality issues or complaints within the organisation. This tool will assist in ensuring that all of the issues related to quality are able to be accurately tracked and viewed visibly in order to assist with identifying issues and tracking improvements.

The Pareto chart is one of the seven basic tools of quality control. The independent variables on the chart are shown on the horizontal axis and the dependent variables are portrayed as the heights of bars.

1.1.13.1 CAUSE AND EFFECT DIAGRAMS

The first step in the accurate investigation of a problem in the workplace is to actually define the problem. It is important to clearly and concisely write down the exact problem that has arisen and what the impacts of this problem are so there will be a clear and direct issue to investigate.

The second step in investigating a problem is to analyse it. During this phase we will use the information that has been collected on the work area and the current situation and assess a range of factors and information such as:

- What is causing the problem?
- Why is this happening?
- Why this process was initially designed this way?
- What was the intended outcome?

This information will be able to be used to ensure that all of the requirements and needs that are related to this problem can be identified and strategies will be able to be made to ensure that the problem will be able to be effectively resolved.

Cause and effect diagrams or fishbone diagrams can be used to effectively analyse information in this way:

- The main issue that need to be analysed will be drawn on the centre line of the fishbone chart this is the effect line in the diagram.
- Each of the potential causes of this effect will then be drawn onto the diagram as diagonal lines that come out from the centre like a fish bone

Common categories for analysis when creating a fishbone diagram include:

- Processes
- Equipment
- Personnel
- Resources
- Environment

1.1.14 AFFINITY DIAGRAMS

Affinity diagrams are suitable for use when there seems to be a range of different issues and ideas in relation to a quality management issue.

Affinity diagrams are an excellent quality management tool and can be used to categorise ideas and issues into categories that are based on their natural relationships and correlations with each other.

Affinity diagrams are an effective tool to be used when ensuring that a large range of data that has been collected from activities such as brainstorming, group discussions or sorting large amounts of unorganised data.

The process for creating an affinity diagram is as follows:

1. Write each of the ideas or issues onto separate cards
2. Ask a group of people to silently sort them into groups or natural relationships (It is ok if some of the cards are in a category of their own)
3. Discuss the categorise with the group and refine and reorganise based on group consensus
4. Create a vertical list for each category

1.1.15 FLOW CHARTS

A flow chart is a diagram that clearly depicts all of the stages of the production process from beginning to end of the process. Flow charts generally consist of a variety of different shapes boxes filled with text and arrows that connect the order of the tasks.

It is important to have a clear understanding of each process from start to finish so that all steps can be effectively planned for and completed as required. This can be achieved by developing a flow chart that explains each step in the process and placed them in consecutive order so that a full map of the process is created.

The production process is the series of steps or stages that must be completed in order for a range of raw materials and components to be used to produce a final product or outcome.

Some flow charts can be simple and linear in design while others will encompass a variety of different stages, departments and individuals and can be quite detailed and involved depending on the production process being charted.

When writing a flow chart it will be necessary to determine the following:

- Start point
- Each step and stage of the production process
- The order of all of the steps
- What resources will be required
- What equipment will be required
- Which personnel will be involved
- Safety requirements
- Quality points
- Time frame and production requirements

Each of these factors will be carefully mapped and laid out in a clear and simple chart that will flow from one task to the next creating a full plan or process to be followed throughout the manufacturing process.

1.1.16 RUN CHARTS

Run charts display variations in quality and data over time to show a clear and accurate representation of how something has improved in the time period once changes have been made.

Run charts provide a range of benefits for monitoring quality improvement within the workplace:

- They can assist in improving the teams' goals and objectives by clearly demonstrating poor performance.
- They assist in identifying and showing changes as improvements
- They demonstrate the value and impact of changes and improvements

1.1.17 CUSTOMER FOCUS GROUPS

These are a collection of small group meeting where customers are shown various pieces of information and asked a series of questions regarding their opinions and thoughts on the items at hand.

Focus groups tend to include both individual and group responses to questions and some group discussions. These are a great way of taking an in-depth look into a particular aspect or scenario in relation to customer quality management planning processes, objectives and outcomes.

1.1.18 NOMINAL GROUP TECHNIQUES

The nominal group technique a problem solving, solution generation and decision making techniques that can be conducted in a group scenario. Nominal group techniques involve a group discussion regarding quality issues within the organisation a series of voting will take place in order to gain the group consensus for a variety of options for improving quality within the organisation.

The voting system is a little different to traditional voting and selection the majority, nominal group techniques, tally all votes, remove duplicates and then rank the remaining options.

A second vote will then take place to select one of the final options, nominal group techniques are an effective way of making structured and considered evaluations and decisions.

1.1.19 TALLY CHARTS

A tally chart may be a traditional and simple form of recording data, but is an excellent tool that can be used to assist in managing quality improvements within the workplace.

A tally chart is a simple table that records the frequency of an incident, tallied nominally.

Tally charts can assist in the managing of quality improvement by demonstrating the increase or decrease of factors that are related to quality within the organisation.

1.1.20 APPLYING THE QUALITY MANAGEMENT SYSTEM IN MINING

Mining is a large and complex business model that requires many precision actions to be undertaken within a potentially dangerous environment. It is necessary to ensure that a structured quality management system is in place within all mining sites and plants.

It is essential that these quality management systems are maintained and followed accurately to ensure the quality, safety and efficiency of all tasks that are carried out within the mine.

It is a requirement that all documentation in relation to the quality management plan are located, read and correctly interpreted to ensure that all work practices are carried out exactly in line with the quality requirements of the mine site at all times making the work compliant.

1.1.21 COMPLIANCE

Compliance in this instance means that the activities that have been carried out comply with any statutory or regulatory or maintenance plan requirements. The site plant, equipment and

infrastructure plan documentation will provide you with a range of information in relation to how job tasks must be carried out in order to ensure that all tasks are compliant with the plan.

1.1.22 COMPLIANCE DOCUMENTATION

Compliance documentation may include:

- Legislative, organisation and site requirements and procedures
- Manufacturer's guidelines and specifications
- Australian standards
- Employment and workplace relations legislation
- Equal employment opportunity and disability discrimination legislation

1.1.23 RELEVANT TYPES OF LEGISLATION AND ACTS FOR THE MINING INDUSTRY

There are a range of relevant legislations and Acts that will need to be effectively followed as a part of the quality management plan.

Common legislation that needs to be followed includes:

- Mining and Quarrying Safety and Health Act 1999
- Mining and Quarrying Safety and Health Regulation 2001
- Coal Mining Safety and Health Act 1999
- Coal Mining Safety and Health Regulation 2001
- Explosives Act 1999
- Radiation Safety Act 1999

1.1.24 KEY ASPECTS OF THE ORGANISATIONS SITE MANAGEMENT PLAN

It is important to be aware of all of the key aspects that make up the organisations site management plan in order to ensure that all aspects can be effectively planned for and managed.

Key aspects of the site quality plan may include:

- Organisation's quality policy
- Allocation of responsibilities
- Consultation procedures
- Communication procedures
- Monitoring procedures
- Review procedures
- Record keeping procedures
- Reporting procedures
- Training procedures
- Compliance procedures
- Procedures for applying interim solutions
- Standard operating procedures
- Safe operating procedures
- Work instructions
- Emergency procedures
- Permit requirements
- Sampling and testing procedures
- Documentation procedures
- Reporting procedures
- Product specifications

- Delivery standards
- Customer service standards

1.1.25 ACCESS

Work task documentation may be obtained from other personnel, the site office or the staff intranet. Work task information may also be located within the policies and procedures manual. It is essential that you ensure that you are aware of all of the documents and information that is related to a specific work task and that this information is accessed as required.

1.1.26 READ

It will be necessary to ensure that all of the documents are carefully read and understood. If you do not know the meaning of something then it must be clarified with appropriate personnel.

1.1.27 INTERPRET

To interpret something is to explain or translate it, when interpreting work task information it is essential to collate all of the information that was read and understood and apply it to the specific task in order to provide a full understanding of the complete task requirements.

1.1.28 QUALITY MANAGEMENT PLAN PROCEDURES AND REQUIREMENTS

Each organisation will have a variety of different quality management plans and procedures that will need to be followed at all times. It will be necessary to ensure all quality management plan procedures and requirements are obtained from within the quality plan and related policy and procedure documents.

Quality management plan procedures and requirements may include:

- Interpreting requirements
- Analysing job tasks
- Applying quality requirements
- Managing quality requirements
- Recording data in relation to quality
- Performing continual improvement
- Monitoring quality issues
- Reviewing quality issues
- Reporting and acting on quality issues

1.2 Actively encourage and support, team members to participate in the quality management plan decision making processes and to assume responsibility and authority

1.2.1 HUMAN RESOURCE PRINCIPLES

Human resource management principles are a set of policies procedures and actions that are taken in order to effectively ensure that all of the human resources needs of the organisation are effectively managed and maintained.

Principles of human resources include:

- Ensuring that the human resources needs of the organisation are met

- Ensuring that all personnel have the required information, resources, skills and training required in order to meet their job roles
- Ensuring that all personnel have the support, motivation, encouragement and training that they require
- Ensuring that the human resources allocation of the organisation is financially viable
- Ensuring that all human resources personnel are effectively managed to utilise them to their full potential
- Ensuring that the career development and professional development of all personnel meets the needs of both the worker and the current and future needs of the organisation

1.2.2 ACTIVELY SUPPORT AND ENCOURAGE PERSONNEL IN THE QUALITY IMPROVEMENT SYSTEM

It is essential to ensure that team members are actively supported in the quality management plan decision making processes. In order to effectively achieve this it is important to ensure that all personnel understand their roles and responsibilities in relation to the quality management plan and accept and act on the authority that they have been given.

1.2.3 METHODS FOR SUPPORTING AND ENCOURAGING PARTICIPATION IN QUALITY MANAGEMENT

Methods that can be used to actively encourage and support personnel to take a role or responsibility and authority in the decision making processes involved with the quality management system may include:

1.2.3.1 COLLABORATIVE PROCESSES

A collaborative process is ensuring that there is even participation of a range of different stakeholders. This participation may be in a number of different activities including:

- Consultation
- Testing
- Challenging
- Experimenting
- Researching
- Concept development
- Ideas generation
- Communication
- Creative thinking processes

It is essential that there are parameters and expectations set for participants of the collaborative process in order to ensure that all participants are aware of the terms and can be actively involved in the consultative process.

1.2.3.2 CONSULTATION

Effective consultation is an excellent way of ensuring that personnel are encouraged to actively participate in the quality improvement process.

Consultation should be conducted at every stage of the quality planning process.

1.2.3.3 EXAMPLES OF CONSULTATION FOR QUALITY IMPROVEMENTS

Examples of when consultation could be beneficial include:

- Determining the need for quality improvements
- Strategic analysis of current strategies and action plans in relation to quality
- Determining which areas in the organisation are under performing
- Identifying options for quality development
- Planning communication and training strategies for quality developmental planning processes
- Agreeing on options for quality development
- Determining new changes across the organisation

1.2.3.4 PLANNING FOR CONSULTATION

Consultation strategies and plans should be formally planned for the best outcome and written into the developmental planning process. It is important that all participants of the consultation process feel supported and able to give honest answers regarding the developmental planning process.

Different types of consultation may work better for some situations or groups and this will need to be decided during the consultation strategy planning process. Effective consultation is one of the key factors that will determine the success of your developmental planning process and so should be seriously considered and carefully planned for the best outcomes including information collected and maximum participation.

1.2.3.5 BRAINSTORMING

Brainstorming is a process that can be used in a group situation for generating a series of ideas through an intense process of free thinking and active contribution. All participants are encouraged to think out loud and suggest a constant stream of ideas even if they may seem unusual or ridiculous. It is through this pattern of allowing free thought and pushing boundaries that can create new ideas that would not have previously been thought of as one idea pushes into and creates another.

Brainstorming within a group of people or within a team can be a powerful and effective method of coming up with a set of proposals to be used as solutions to a problem or answers to a question.

Effective use of the brainstorming technique can have many positive outcomes such as:

- Innovative problem solving
- A large range of reasonable proposals or solutions can be determined
- Fluid and collaborative ideas can build on each other to create a proposal or alternative that would not have been able to be created using other methods
- Encourages team collaboration
- Building on the ideas of many to create new ideas
- Motivates and engages teams in developing solutions

1.2.4 MOTIVATE AND SUPPORT STAFF TO CONTINUE DEVELOPING THEIR SKILLS

It is essential that personnel actively take steps in order to motivate staff to develop their skills in relation to job tasks and the application of the quality management system within the organisation.

Steps that can be taken to ensure this include:

- Ensure all staff have the required resources and consultation to effectively develop their own skills
- Ensure that all roles and responsibilities are clear
- Engage and discuss needs and options with personnel
- Provide valid opportunities for career enhancement and development
- Provide recognition and acknowledgement for successful achievements of the worker
- Ensure all workers have a strong support network and are aware of where support can be obtained.

1.3 Provide information on the quality management plan in a language, style and format that is understood by all personnel

It will be necessary to ensure that a range of relevant information that is required for personnel to be able to clearly understand the requirements and processes in relation to the quality management system.

Site personnel may include:

- Employees
- Contractors

1.3.1 WHAT IS COMMUNICATION?

Communication of information is most successful when the information and ideas are organised in a logical, concise and understandable manner. Consideration and planning are required when organising information and ideas that want to explain and interpret.

1.3.2 CLEAR COMMUNICATION OF INFORMATION

Consider the following points when explaining information related to the quality management system:

- **Make sure it is logical:** Information communicated in a logical sequence is less confusing and easier to understand. Explain the idea or information from start to finish in order.
- **Clearly state the information and its purpose:** When explaining ideas and information it is important that you clearly state the purpose and identify the subject and objectives of the content. Do not expect a person with whom you are explaining information to, to have to extract this information themselves
- **Be concise: The most effective and easily understood information is clear and succinct.** Long winded explanations and wordiness only distract from the intent of the explanation and interpretation of the information and its subject.
- **Provide a conclusion:** Once you have explained your idea or information then provide a conclusion at the end and restate the objective and what it is you would like to achieve from the explanation and interpretation.
- **Use words and phrases accurately:** Make sure that all of the words and phrases used within your explanation are used correctly. Using words or phrases incorrectly can change the tone and message that you are trying to convey.
- **Break down complex ideas:** When explaining or interpreting a complex idea or piece of information it is most useful if you break down your explanation into manageable pieces, this will enhance the clarity of your information.

Along with all of these methods it is important that the appropriate communication method and level of formality and complexity is selected. Even the most well thought out and communicated

piece of information will lose some of its integrity if the most appropriate style and method has not been selected and used.

1.3.3 METHODS FOR COMMUNICATING INFORMATION

There is a range of different ways that information can be communicated and it is essential that all communication is clear accurate and concise.

- Presentations - Presentations can be in the form of discussions, slide shows, or company videos and audio that are created and displayed in a formal group environment.
- Reports - Formal reports can be written including detailed information and graphical representations to ensure that all relevant personnel will have access to all the required quality information.
- Memos - A series of memos providing information related to the quality management plan can be created and distributed or displayed throughout the organisation.

1.3.4 INFORMAL QUALITY DEVELOPMENTAL PLAN MEETINGS

This is where you may invite a large group and ask them to watch a presentation and then mingle with the guests and have a series of informal discussions and chats, this is a good method for getting very honest opinions regarding the feelings and needs of the stakeholder groups in a non-confronting atmosphere.

1.3.5 INVITATIONS TO MEETINGS AND DEMONSTRATIONS

Personnel can be invited to attend a series of events and demonstrations that seek to demonstrate the new revised quality management strategy and its related policies and procedures.

1.3.6 NEWSLETTERS

Can be created and distributed to personnel they can include a description of the new strategy and the benefits that it will provide to personnel and the organisation can be explained. New rules and guidelines can be given and new ways to seek assistance and gain contact with the organisation can be introduced.

1.3.7 QUALITY PLAN EXPLANATION AND SUPPORT MATERIAL

A range of explanation notes and support material can be created and provided to personnel with the quality management plan to ensure that all aspects of the quality management plan will be understood and able to be clarified as required.

1.3.8 STAFF TRAINING

A range of different team activities and formal training sessions can be planned and implemented within the organisation to ensure that all of the staff is aware of their roles, responsibilities and actions in relation to the quality management plan.

1.4 Provide coaching and mentoring support to individuals and teams to maximise implementation of the quality management plan

It will be necessary to ensure that a range of coaching mentoring and support is provided to individuals and teams in order to maximise the implementation of the quality management plan. These supporting and staff monitoring activities make up a part of the human resources principles.

1.4.1 INFORMAL COACHING

Informal coaching is a great tool to enhance business quality management tasks, when it is combined with other methods of training and development. Informal coaching can provide the opportunity for ongoing feedback and re-direction as required throughout the learning and skills development process.

1.4.2 MENTORING

Assigning a buddy or mentor to your personnel is a great way of both causing the mentor to further develop their own skills and also to provide the participant with ongoing support and assistance throughout their own development in relation to the quality management system.

1.4.3 SUPPORT

Support may be provided to personnel in a variety of different ways including:

- Moral support
- Information
- Training
- Assistance
- Team building games
- Professional development

It is important to write a learning development and training strategy for enhancing the teams skills in relation to the quality management in a way that is continuous and varied so that the training is relevant and engaging and informative. Learning and development strategies are an excellent way of ensuring that personnel receive the support that they need.

Assistance in planning targeted training and development strategies can be sought from:

- Human resources experts
- Learning and development experts
- Key stakeholders
- Participant consultation
- Risk management training experts
- Business continuity training experts

Planning these strategies in collaboration with the team members and other relevant stakeholders will also assist in the engagement and uptake of the program and in ensuring that the training and development program meets the needs and skill level of the individuals and groups that will undertake the training.

1.5 Maintain the quality management plan while implementing the quality requirements of other site processes

1.5.1 PREPARE FOR AND ORGANISE WORK ACTIVITIES TO MEET ALL TASK AND QUALITY PLAN REQUIREMENTS

Before beginning any work on site, it is necessary to thoroughly and adequately prepare both yourself and your team for the work at hand. This includes acquainting yourself with a number of different components of the job, such as:

- Job document information
- Organisational guidelines
- Team member capacities and skill sets

- Job site details and specifications
- Quality management plan requirements for specific task

1.5.2 EXAMINE WORK AND QUALITY REQUIREMENTS

Examine all the various components needed for you to sufficiently prepare yourself, your team, and your job site for a successful completion of the assigned task while effectively maintaining all quality plan requirements.

1.5.3 QUALITY PLAN DOCUMENTATION

Quality documentation for a specific work task can include a number of different types of documents but will generally consist of some written instructions as well as include diagrams and sketches or some kind of graphical representation of the job. These documents are absolutely fundamental to both the job you complete and the success of that job. Without clear and well understood instructional documentation, it will be very difficult, if not impossible, to complete your job successfully while maintaining all required quality standards.

1.5.4 ENSURE ALL QUALITY AND TASK DOCUMENTATION IS CLEARLY UNDERSTOOD

Accordingly, it is of critical importance for this documentation to be thoroughly understood, and for any confusion or conflicting instructional information to be cleared up immediately. Take the time to review all of your instructional material before making even the first step of your job, so if there is something that is unclear to you further through the project, you can make sure you get clarification before you begin.

1.5.5 CONSIDER LINKS WITH OTHER QUALITY REQUIREMENTS

In order to be able to successfully maintain the quality management plan while implementing the quality requirements of other site processes it will be essential to determine the relationships and links that occur with other related policies and quality requirements to ensure that there are no conflicts within the Quality management plan. Quality management plans may also be implemented across other sections of the organisation and therefore may impact on other areas and department in the work place.

In order for these conflicts and correlations to be able to be managed so that the other quality requirements may be successfully implemented into the organisation or department without compromising the integrity of the quality management plan it is important that all links and relationships with other site processes are determined, recorded and taken into consideration in relation to the quality management plan.

1.5.6 PROCEDURE AND PROCESS MAPS

Procedure maps are a great tool for assessing how quality requirements across the organisation interact with each other. A detailed map of the quality management plan and all of its phases should be written so that any links or relationships with other quality requirements within the organisation can be analysed.

Process and procedure maps will be laid out in a way that shows a clear and graphical step by step plan and will demonstrate all of the other personnel and departments that will be involved in the process.

1.5.7 ANALYSE LINKS WITH OTHER QUALITY REQUIREMENTS

Links and relationships with other quality requirements will need to be analysed to check if:

- The relationships with other policies are complementary
- The relationships and links do not negatively impact on either requirement
- There is any contradiction caused by quality requirement overlap
- To ensure all procedures related to both quality requirements are clear and reasonable in regards to any overlap.
- The relationships or links do not negatively impact on each other

When there is a quality requirement or link that is causing negative impacts or quality deviations for one or both of the requirements then one or both of them will need to be altered.

Strategic checking of all aspects of quality requirement interaction within the organisation is extremely important in ensuring the integrity and effectiveness of each new quality requirement that is implemented within an organisation.

1.5.8 BENEFITS OF QUALITY LINKS BETWEEN AREAS AND DEPARTMENTS

Relationships and links with other quality requirements within the organisation can strengthen each of the quality management programs if managed well. When all of an organisations policies and procedures are interlinked and working towards a common goal the entire organisation has an improved chance of meeting all of its goals and managing factors such as quality in an effective manner for the benefit of all stakeholders and the extended community.

CHAPTER REVIEW – REFLECTIVE QUESTIONS

1. What is the quality management plan made up of?
2. Waste in the lean model may include what?
3. What can careful analysis of information provide?
4. What are common categories for analysis when creating a fishbone diagram?
5. What might compliance documentation include?
6. Quality management plan procedures and requirements may include what?
7. What do the principles of human resources include?
8. What are some examples of when consultation could be beneficial?
9. Site personnel may include who?
10. Support may be provided to personnel in a variety of different ways including what?
11. Links and relationships with other quality requirements will need to be analysed to check what?

Chapter Two – Make recommendations based on performance that has been monitored and reported on

By the end of this chapter you will understand:

- Monitor the organisation's systems and technology to identify ways in which planning and operations could be improved
- Strengthen customer service by using quality improvement techniques and processes
- Identify and recommend improvements to the quality management plan to relevant personnel and apply approved recommendations

2.1 Monitor the organisations systems and technology to identify ways in which planning and operations could be improved

It will be necessary to ensure that a range of monitoring activities are conducted within the organisation in order to ensure that all of the organisations systems and technology are assessed in order to determine a range of ways in which planning and operations could be improved. The management of an organisation is conducted through a series of system which these days rely heavily on technology it will be necessary to assess these systems and their correlating technology in order to identify a range of potential opportunities for quality improvement within the organisation.

2.1.1 ORGANISATIONAL SYSTEMS

There are a range of different systems that make up an entire organisation and it will be necessary to apply quality standards to each of them and then ensure that each system is carefully monitored and reviewed in order to allow for continuous quality improvements.

Organisational systems may include:

- Information systems
- Communication systems
- Management systems
- Production systems
- Efficiency systems
- Job task allocation systems
- Change management systems
- Human resources management systems
- Training and education systems
- Complaints management systems
- Maintenance systems

2.1.2 ORGANISATIONAL TECHNOLOGY

There are ranges of different technology that will be used within the organisation and it will be necessary to apply quality standards to each different technology type and then ensure that each type of technology used is carefully monitored and reviewed in order to allow for continuous quality improvements.

Organisational technology may include:

- Telephone systems
- Communication systems
- Computer systems
- Intranet
- Databases
- Information systems

It will be necessary to strategically analyse each of the steps and the related technology in each of these systems in order to develop a range of options that can be implemented as a part of the quality management system in order to ensure that improvements to quality can be made.

2.1.3 MONITORING THE QUALITY PLAN

It is important to ensure that the agreed targets and measurable outcomes within the quality management plan are applied to all targets and standards so they may be able to be successfully monitored and assessed for success or the need for improvement. There are many different types of production targets and measurable outcomes that can be put in place and they may be more or less suitable in different situations based on a range of factors.

2.1.4 MONITORING QUALITY PERFORMANCE DATA

Qualitative and Quantitative information related to performance outcomes required of systems and technology within the organisation will need to be collected and collated throughout each agreed time period. Information will need to be collected regarding the performance of all personnel and work activities in relation to their measurable outcomes or targets for each period in regards to the agreed quality standards.

2.1.5 PURPOSE OF MONITORING QUALITY

The purpose of monitoring quality performance data is to perform an in-depth monitoring and recording process to advise on the total success of production efficiency within the organisation and assess what is causing an impact to the bottom line negatively or positively and potential methods for dealing with each of these deviations.

2.1.6 INFORMATION COLLECTION FOR MONITORING QUALITY

Information will need to be collected from a variety of different sources in order to gain a full picture of production efficiency and progress towards goals and targets.

Data may be collected from:

- Financial information
- Production forecasts
- Past Budgets
- Units produced
- Quality information
- Wastage counts

Production performance can be measured through assessing the level of units or work output against targets. Quality standards, wastage and mistakes can be measured against standards.

It will be important to ensure a clear picture of the desired outcomes and then measure the current actual performance of the work team.

This will determine the following information:

- Are targets being met?
- Are quality standards being met?
- Is wastage at an acceptable level?

2.1.7 REVIEW THE QUALITY MANAGEMENT PLAN

Once all of the monitoring activities have been conducted and a variety of information has been collected on the quality performance within the organisation it will be necessary to perform a review on all of the information and make changes to quality procedures and actions within the organisation as required.

2.1.8 THE PURPOSE OF REVIEWING SYSTEMS AND TECHNOLOGY

The purpose of reviewing systems and technology within an organisation is to conduct a formal assessment on the all the information collected during the monitoring phases and to identify opportunities for change and apply them as required.

2.1.9 REVIEW PROCESSES

There are a range of different tools that can be used in order to successfully conduct reviews on systems and technology within the organisation. All review processes will be designed to systematically assess the current situation and to identify and implement a range of improvements.

2.1.10 DRIVE REVIEW PROCESS

DRIVE is a problem solving and evaluation tool that can be used as a part of the review process.

DRIVE is made up of the following components:

- **Define** the entire scope of the issue and identify the measurable aspects of the issue
- **Review** the current situation, identify and collect a range of information on the background of the issue
- **Identify** potential improvement or solutions and changes that are required
- **Verify** the options for improvement through a series of analysis and checking activities
- **Execute** the implementation of the solutions and review them to ensure that the required impact has been achieved

2.2 Strengthen customer service by using quality improvement techniques and processes

It is essential to identify and implement a range of techniques and processes that can be used in order to strengthen customer service through quality management and improvements.

When looking to strengthen customer service within an organisation it is essential to first determine:

- What customers expect from service
- Areas that the organisation is doing well
- Areas that the organisation needs development in

Quality improvement techniques include a range of investigative and analysis tasks that can be focused directly on seeking new ways for improving customer service.

2.2.1 CONSIDERING CHANGE TO THE WAY THINGS ARE DONE

There is often a push in many aspects of business to do things the way that they have always been done or to choose a 'safe' option. But these types of ideas can hold back true progress and success. Of course in business we should look at past successes and their related challenges, but then look to expand these ideas and grow on them. If something has been successful in the past, analyse the following:

- What made it successful?
- What were the internal and external factors that contributed to this?
- What else could work?
- How could previous challenges be improved through new practice?
- What are competitors doing?
- Consider new innovations
- New technology
- Changes in perceptions
- Changes in needs
- Evolution of the industry and practice

2.2.2 BULLETIN BOARD

A bulletin or mood board can be created using a range of statements or images that encapsulate the overall concept of what customers expect and need from service; this will help in the generation of new ideas.

2.2.3 BUZZ SESSION

Buzz sessions consist on dividing a larger group into smaller groups in the same room and discussing different aspects of the customer service improvement development. To add another factor the discussions can then be moved around between the groups to get a varied consensus or decision.

2.2.4 CHALLENGE CONCEPTS

In order to effectively challenge concepts it will be necessary to pick them apart and find a variety of different factors about them that could be:

- Questioned
- Opposed
- Built on
- Disregarded

2.2.5 UPDATING CUSTOMER SERVICE POLICIES AND PROCEDURES

When improving customer service within an organisation as per the requirements of the quality management plan it will be necessary to ensure that customer service policies and procedures are analysed and revised in order to meet the needs of both the customers and the quality management plan.

2.2.6 POLICY REVISION

There are two main types of policy revision that may take place prior to the within an organisation in order to ensure that customer service policies can be updated according to the data and information that has been collected by the organisation regarding the needs of the customers and the quality standards that are expected in regards to quality customer service.

2.2.7 SUBSTANTIAL REVISION

A substantial revision may be required if significant changes need to be made to the customer service policy and its related procedures in order to meet all quality requirements.

For a revision to be considered to be substantial it would require one or more of the following changes:

- Alterations to the policy intent or objectives
- To the department managing the policy
- Related legislative or regulatory changes
- New policy development
- To the implementation process

2.2.8 MINOR REVISION

A minor revision does not affect the rules or intent of the policy.

Smaller changes may be required such as:

- Adding new explanations of definitions or terms
- Clarification
- Re-arranging of information to increase readability and usability
- Procedural changes
- The addition of new guidelines

2.3 Identify and recommend improvements to the quality management plan to relevant personnel and apply approved recommendations

When outcomes have been monitored and reported on within the organisation in relation to the quality management system it will be necessary to utilise this information in order to identify a range of improvements to the quality management plan that can be recommended within the organisation.

The process of identifying and recommending improvement to the quality management system should be conducted as a part of a continuous improvement cycle.

2.3.1 CONTINUOUS/CONTINUAL IMPROVEMENT PROCESS

Continuous improvement which is sometimes called continual improvement is a cyclical review process that is used in many organisations. This tool uses small and continual improvements that

are integrated on a rolling system. The benefit of using a tool like this is that the organisation will not need to spend many months reviewing and then implementing major changes to the business continuity framework as reviews and changes will be constant and small, meaning that the organisation will be improving constantly but in a manner that is organic and simple.

There is more than one of these continual improvement processes that can be implemented within the organisation although the most commonly utilised tool is the four stage process known as PDCA or:

- Plan: Constantly review all processes and tools to effectively identify the need for change, plan for the change or the improvement.
- Do: Implement the change on a portion of the organisation.
- Check: Assess the change to determine its success.
- Act: Implement the change across the organisation.

2.3.2 OTHER TYPES OF CONTINUAL IMPROVEMENT

There are a range of other types of continual improvement policies and models that can be used within the organisation and the selection of these will be based on the size, structure and current operations that are conducted within the organisation.

2.3.3 EXAMPLES OF OTHER TYPES OF CONTINUAL IMPROVEMENT MODELS

Other types of continual improvement work more on a rolling system, they will include a process such as:

- Review as you go
- Identify
- Record
- Investigate
- Plan for improvement
- Implement
- Review as you go

These types of continual improvement strategies ensure that the business will be continually identifying areas for improvement and applying them as recommendations into the workplace. These recommendations will need to be assessed and monitored once they have been implemented to ensure that they have impacted as intended according to the quality management system.

2.3.4 MAKE RECOMMENDATIONS FOR IMPROVEMENT

All recommendations for improvement should be delivered in writing to the department responsible for the management of the quality management plan in an informative, concise and constructive manner according to the individual organisations policies and procedures. Recommendations for change will need to go through an approvals process before they can be applied.

2.3.5 WRITTEN RECOMMENDATIONS

Your written report detailing the recommendation should include all relevant details of:

- The suggested action
- The reasons for the suggestion
- The steps and cost involved in making the proposed changes
- The risks and ongoing costs the business is likely to incur if the changes are not made

2.3.6 SUBMIT RECOMMENDATIONS TO RELEVANT PERSONNEL

Recommendations for change within the organisation may need to be submitted to a range of different personnel depending on the scope and nature of the change.

Relevant personnel that may need to be notified of recommendation for change may include:

- Quality assurance personal
- Quality management team
- Department heads
- Supervisors
- Management
- CEO
- Site manager
- Human resources personnel
- Co-workers
- Specialist advisors
- OHS personnel and committees

2.3.7 APPLYING RECOMMENDATIONS THROUGH CHANGE PROCESSES

Changes that have been scheduled for implementation will need to be approved following organisational change and approvals processes.

A typical change control process for quality changes will include the following steps:

1. **The nature of the change is identified:** in this phase the type of change and reason for it will be identified and recorded.
2. **The scale of the change is identified:** in this phase the amount of infrastructure and other factors within the organisation that will be affected by the change is measured. This is where the amount of resources that will be required to make the change will be determined.
3. **Identify the possible impacts that the change may have:** In this phase the potential effects that the changes will have on the users of the quality plan will be assessed plans to minimise business impact will need to be made here.
4. **Approve the change:** Once the change has been analysed and deemed appropriate then approvals for the changes to be made will need to be provided.
5. **Implement the change:** The change will then need to be implemented and promoted throughout the organisation.
6. **Post change review:** This will be an initial and ongoing review to determine if the changes have been effective and if they have resolved the issue that was brought forward by the feedback and data analysis.

CHAPTER REVIEW – REFLECTIVE QUESTIONS

1. What might organisational systems include?
2. Where might data be collected from?
3. When looking to strengthen customer service within an organisation it is essential to first determine what?
4. A minor revision does not affect the rules or intent of the policy. Smaller changes may be required such as what?
5. Your written report detailing the recommendation should include all relevant details of what?
6. A typical change control process for quality changes will include what steps?

Chapter Three – Consolidate opportunities for further development

By the end of this chapter you will understand:

- Inform individuals and teams of savings and productivity improvements in achieving the quality management plan
- Document work performance and use the information to identify opportunities improve quality
- Manage quality records, reports and recommendations for development in accordance with the quality management plan

3.1 Inform individuals and teams of savings and productivity improvements in achieving the quality management plan

When consolidating opportunities for further development of the quality management system it is important that all individuals and teams are informed of the savings and productivity improvements that will occur or have occurred in achieving the quality management plans goals.

3.1.1 ENCOURAGE PERSONNEL TO STRIVE FOR EXCELLENCE

In order to encourage personnel to strive for excellence in line with the quality management system it is essential that they understand the current and potential future benefits in complying with the plan.

Encouragement can be achieved by:

- Promoting and rewarding excellence
- Bonuses
- Promotions
- Engagement and ownership

3.1.2 SAVINGS AND PRODUCTIVITY IMPROVEMENTS

Saving and productivity improvements may include savings in the following areas:

- Time
- Staff
- Money
- Raw materials
- Electricity
- Water
- Assets

Resources are precious, they can be costly to manufacture, transport and purchase and some like time are not replenish able.

3.1.3 LEGAL AND ETHICAL REASONS

There are a range of legal and ethical reasons that savings and productivity improvements should be increased within an organisation and these may include:

- Financial
- Cost saving
- Environmental legislation

- Increasing productivity
- Increasing efficiency
- Working effectively

All businesses will generate some waste this is unavoidable but when an organisation is running effectively and not causing any unneeded resource use and wastage then this will be better for employees, the organisation, the environment and all other stakeholders. Productivity should be actively increased in line with the quality management plan at all times.

3.1.4 USING A RANGE OF COMMUNICATION MEDIA AND TECHNIQUES

Selecting appropriate methods of communication with which to promote and share the saving and improvements is extremely important. In order for full understanding and engagement in the quality management plan across the entire organisation it is important to select and use a wide variety of different communication styles in order to adequately address and reflect the needs of all of the different stakeholders within the company.

Circulate successes and information on savings and improvements widely and in a range of different formats in order to ensure that all personnel will be aware of the improvements that have been achieved and will be motivated to make further improvements to quality within the scope of their own job role.

3.1.5 COMMUNICATION CHANNELS

There are a range of different communication channels that may be able to be used in order to successfully share information on savings and quality improvements within the organisation.

Communication channels may include:

- Face-to-face meetings
- Inclusion in training events
- Internet and intranet
- Posters, leaflets and fliers
- Presentations and speeches

3.2 Document work performance and use the information to identify opportunities improve quality

One of the major aspects of a quality management system within an organisation is to ensure quality work outcomes and quality work performance from all personnel. Without quality work performance it will not be possible to consistently achieve quality outcomes in the workplace.

It will be necessary to ensure that all quality work outcomes are documented effectively so that the information can be used to identify opportunities for improved quality management within the organisation.

3.2.1 PERFORMANCE DATA TYPES

There are two main types of performance data that will need to be collected and these are:

- Qualitative
- Quantitative

3.2.2 QUANTITATIVE FEEDBACK

Quantitative feedback collects data in the form of numbers. This means that aspects can be measured and expressed in numbers as percentages or ratios. Quantitative Research tells us 'how many', 'how much', 'to what extent' or 'what size' something is.

3.2.3 QUALITATIVE FEEDBACK

Collects exploratory data, it asks a variety of carefully planned questions that seek the underlying reasons, opinions and motivation behind different actions and situations.

3.2.4 METHODS USED TO COLLECT INFORMATION

There are a range of different ways that information in the workplace can be collected and it is recommended to ensure that a variety of methods are used to ensure that a clear picture of all relevant quality issues and requirements can be obtained.

Information can be collected using a series of different strategies including:

- Discussions
- Focus Groups
- Surveys
- Direct Questioning
- Review documentation
- Feedback reports

3.2.5 PERFORMANCE APPRAISALS

Within many organisations one of the main methods that are used for documenting work performance is the performance appraisal. Performance appraisals are a routinely scheduled work performance assessment that usually involves the evaluation of current and past work performance against a series of benchmarked and pre-agreed parameters and quality standards. Performance appraisals are an excellent way of assessing the quality of a worker's performance and also an excellent opportunity for discussing future goals, areas of improvement and training needs.

In most cases personnel will be required to conduct a self-assessment on how they feel that they have been conducting their current work tasks and which areas that they need to improve in or require more experience or training.

This will be followed on by a formal one on one discussion involving an in depth consultation with management regarding their views of the work performance and best possible goals for the individual and the organisation.

In order for work appraisals to be effective it is essential that there are measurable and specific goals and outcomes that the worker should have achieved and be working towards for the future. An excellent way of ensuring this is setting Key performance indicators for all staff and work tasks.

3.2.6 USING KEY PERFORMANCE INDICATORS TO IDENTIFY WORK PERFORMANCE

It is essential when supervising and monitoring work performance that performance goals are identified, agreed on and documented in consultation with the worker. When a worker has input into the goals that they themselves will be striving for and working towards it gives them a sense of ownership and responsibility towards those goals which will increase their motivation and job satisfaction.

It is also important to note that all performance monitoring and goals should be transparent in order for them to be attainable and to provide the worker with the opportunity to monitor their own progress as well.

3.2.7 WHAT ARE KPI'S

An excellent way of writing goals is by deciding on key performance areas and then determining Key Performance indicators (KPI's) that are related to these areas and goals. In order for KPI's to be a successful performance monitoring tool it is essential that they are set and written in the correct manner. KPI's must be written using the acronym SMART.

Meaning that they must be:

- Specific
- Measurable
- Attainable
- Realistic
- Timely

3.2.8 SPECIFIC

KPI's have a much greater chance of successful completion than general KPI's these are hard to aim for and even harder to assess for success. For a KPI to be considered specific, it will need to answer the six "W" questions. Who, What, Where, When, Which and Why.

3.2.9 MEASURABLE

KPI's are those that specify the exact criteria on which success is determined. Detailed criteria must be clearly communicated and documented upon creation of the KPI's.

3.2.10 ATTAINABLE

It is important to ensure that KPI goals are able to be attained. Appropriate resources and support should be provided to ensure that the KPI can be attained. KPI's that have a strategy or plan that provides clear explanation of how to achieve the goal will be more likely to be successful.

3.2.11 REALISTIC

To be considered realistic the KPI must be something that the worker is both willing and able to complete.

3.2.12 TIMELY

KPI's should contain specific start and end dates, as well as measurable milestones. So that progress towards the completion of the tasks can be successfully measured. This means that at a specific time, the KPI will be able to be assessed for success.

3.2.13 KPI EXAMPLE

An example work quality KPI is:

Reduce the variance between planned production outcomes and actual outcomes by 3% within 6 months by improving resource use and reducing mistakes through staff training and development.

3.2.14 IMPORTANCE OF ENSURING THAT ALL KPI'S ARE MET

It is essential that all work quality KPI's and other performance requirements are met and achieved by all personnel. In order for the quality management plan to be able to make the planned impacts and improvements to the organisation all benchmarks including KPI's must be achieved.

If KPI's are not achieved there are a number of negative impacts that this can cause including:

- Deviations in quality
- Resource wastage
- Poor performance appraisal results
- Disciplinary action from management
- Safety issues
- Quality issues

3.2.15 DOCUMENTED WORK PERFORMANCE OUTCOMES

A range of information can be collected from documented work performance outcomes including:

- Areas where staff are demonstrating excellence
- Areas where staff demonstrate a need for improvement
- Training needs
- Motivational needs
- Fluctuations in consistency
- Staff lateness
- What is causing productivity loss
- What is causing quality issues

3.2.16 OPPORTUNITIES FOR IMPROVMENT

It will be necessary to analyse this information and use it in order to identify opportunities for improvement according to the quality management system.

Opportunities for improvement may be in relation to:

- Training
- Providing information
- Professional development
- Teamwork
- Monitoring activities
- Controlling activities
- Minimising wastage
- Increasing productivity
- Coaching
- Supporting
- Providing information
- Job redesign
- Job reallocation

3.3 Manage quality records, reports and recommendations for development in accordance with the quality management plan

It will be necessary to manage a range of records in relation to the quality management system and make a series of recommendations for development and further improvement in accordance with the quality management plan.

When managing quality within an organisation there are a number of different records that must be kept in order to ensure that the system can be effectively monitored and managed.

3.3.1 STORAGE OF QUALITY INFORMATION RECORDS AND REPORTS

All quality records and reports will need to be effectively stored and maintained within the organisation in order to effectively meet a range of information retrieval and reporting needs that the organisation has.

Quality information, records and reports may need to be kept due to:

- Legislative requirements
- Historical requirements
- Information collection to inform on quality improvements
- To inform on internal audits
- To inform on future decision making
- To report both internally and externally as required

3.3.1.1 STORAGE AND RETRIEVAL OF QUALITY DOCUMENTATION

There are a range of record keeping and retrieval requirements that all organisations will have in regards to the safe and effective storage of accurate and complete quality records.

These records will be needed in order to meet a range of internal and external requirements and therefore it is essential that they are stored in a manner that will allow for effective and prompt retrieval as required.

3.3.2 STORAGE METHODS

There are a range of different storage methods that may be required within the organisation in order to ensure that all quality information will be available as required.

Storage methods may vary depending on the organisation but may include:

- Electronic back up on hard disk
- Intranet
- Cloud storage
- Server Storage
- Paper based filing
- Formally presented reports

3.3.3 QUALITY RECORDS

Records and reports that may be needed in relation to the quality management system may include:

- Wastage reports
- Productivity reports
- Quality system outcome reports
- Monitoring schedules
- Outcomes from monitoring tasks
- Quality production reports
- Staff appraisals

3.3.4 RECOMMENDATIONS FOR IMPROVEMENT

With all business options there will be costs, benefits and risks involved. To support effective recommendations it is important to demonstrate that all of these factors have been considered information explaining them should be provided so that appropriate decisions can be made. A well-written recommendation will contain the following sections:

- An introduction and explanation of the key points
- Reasons that the proposal is being made
- Options to select from
- Risks and contingencies
- Impacts on business
- Conclusions and recommendations

3.3.5 EXAMPLE OF A QUALITY RECOMMENDATION

A worker has noticed that the storage bins for chemicals do not have secure lids and when they are move around during the filling of smaller containers for use there is some spillage that will go onto the ground this is causing three quality issues:

- An environmental risk of chemicals entering the waterways
- A safety risk of slipping
- A financial risk of wasting the chemicals
- The worker fills out the following recommendation to management:

3.3.6 SUBMITTING THE RECOMMENDATION TO MANAGEMENT

Once a recommendation has been created it will then need to be submitted to management for evaluation and approval. The recommendation will include all of the required information that will be needed for management to make an informed decision.

Your organisation will have a process that will need to be followed to ensure that the recommendations go to the correct person within a reasonable time frame and can be effectively evaluated.

3.3.5.1 QUALITY RECOMMENDATION

Recommendation for quality fixes to the chemical storage area.

Storage bins for chemicals do not have secure lids and when they are move around during the filling of smaller containers for use there is some spillage that will go onto the ground this is causing three quality issues:

- An environmental risk of chemicals entering the waterways
- A safety risk of slipping
- A financial risk of wasting the chemicals

Options to improve the environmental, safety and financial quality of the task of filling the chemical bottles for use:

- Replace the floor in the chemical room to include a run of to a chemical waste unit
- New lids for the chemical bottles
- Tapped chemical bottles that have a catcher for run off
- Staff training

Impacts on the business if the recommendation is not accepted include:

- Legal issues under the environmental Act
- OHS legal issues under the work safety Act
- Financial loss
- Impacts on the business is the recommendation is accepted:
- Improved quality in the areas of safety
- Environmentally sound practices
- Improved resource usage
- Decreasing wastage
- Increase in productivity as the taps make the filling of the bottles faster

Conclusion: In my opinion the cost of the changes are worth the major quality improvements and the reduction of various risks to the organisation.

3.3.7 THE IMPORTANCE OF TIMELINESS IN QUALITY IMPROVEMENT

When responding to quality recommendations within the organisation it is essential that these responses are conducted in a timely manner in order to ensure that the organisation is protected from:

- Legal issues related to lack of response
- Further quality deviation
- Other aspects of the organisation becoming impacted by quality issues
- Dissatisfied customers
- Safety risks

CHAPTER REVIEW – REFLECTIVE QUESTIONS

1. How can encouragement be achieved?
2. Communication channels may include what?
3. Information can be collected using a series of different strategies including what?
4. If KPI's are not achieved there are a number of negative impacts that this can cause including what?
5. Quality information, records and reports may need to be kept due to what?
6. When responding to quality recommendations within the organisation it is essential that these responses are conducted in a timely manner in order to ensure that the organisation is protected from what?

Conclusion

You will have by now covered:

- The candidate must demonstrate knowledge of the following when applying a quality management system:
 - Accessing, interpreting and applying the organisation and site requirements and procedures
 - Key aspects of the organisation's quality system
 - Quality management plan procedures and requirements
 - Human resource management principles
 - Continuous quality improvement processes
 - Quality management plan monitoring and review procedures and processes

This resource guide provided the required knowledge to undertake the theory assessment for RIIQUA401D Apply a quality management system on site for written assessment purposes.

Please understand that you will need to review the information from the guide as required to reinforce your learning. If there are any objectives you are still unclear about, please discuss them with your trainer. Or if you would like to know more about the next step in your academic please talk to your trainer (or one of our consultants) and ask about further pathways to more qualifications.

Once you fulfil the theory and practical assessments related to this section of the course you will have completed and hopefully gained competency.

We wish you the very best and thank you for your participation.

Appendix 1 - Example Quality Management Plan

Document Change Control

The following is the document control for revisions to this document.

Version Number	Date of Issue	Author(s)	Brief Description of Change
0.9	11/15/05	Name1 - Project Manager	Phase 1 - Preliminary draft for Phase 1
1.0	1/27/06	Name1 - Project Manager	Phase 1 & 2 – conform to new framework template, update for Phase 2 deliverables

Definition

The following are definitions of terms, abbreviations and acronyms used in this document.

Term	Definition
PMA	Project Management Advisor Web tool

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1. Quality Management Approach

The purpose for managing quality is to validate that the project deliverables are completed with an acceptable level of quality. Quality management assures the quality of the project deliverables and the quality of the processes used to manage and create the deliverables.

The quality management plan identifies these key components:

Objects of quality review	Quality Measure	Quality Evaluation Methods
Project Deliverables	Deliverable Quality Standards Completeness and Correctness Criteria	Quality Control Activities
Project Processes	Process Quality Standards Stakeholder Expectations	Quality Assurance Activities

The following is a brief explanation of each of the components of the quality management plan.

Project Deliverables and Processes	The key project deliverables and processes subject to quality review.
Deliverable Quality Standards and Completeness and Correctness Criteria	The quality standards that are the “measures” used to determine a successful outcome for a deliverable. The completeness and correctness criteria describe when each deliverable is complete and correct as defined by the customer. Deliverables are evaluated against these criteria before they are formally approved.
Process Quality Standards and Stakeholder Expectations	The quality standards that are the “measures” used to determine if project work processes are being followed. Stakeholder expectations describe when a project process is effective as defined by the project stakeholders. An example is the expectation to be regularly informed monthly of project status.
Quality Control Activities	The quality control activities that monitor and verify that the project deliverables meet defined quality standards.
Quality Assurance Activities	The quality assurance activities that monitor and verify that the processes used to manage and create the deliverables are followed and are effective.

2. Quality Management Objectives

The following are the quality objectives of the project that reflect the overall intentions to be applied with regard to quality throughout the project.

- Deliverables support improved project management proficiency at DoIT
- Deliverables meet the requirements of DoIT leaders and project managers
- Deliverables align with industry best practices for project management and Web delivery
- Deliverables are easy to use
- Project practices conform to recommended project management standards

3. Project Quality Control

The focus of quality control is on the deliverables of the project. Quality control monitors project deliverables to verify that the deliverables are of acceptable quality and are complete and correct.

The following table identifies:

- The major deliverables of the project that will be tested for satisfactory quality level.
- The quality standards and the correctness and completeness criteria established for the project deliverable. Included are any organizational standards that need to be followed.
- The quality control activities that will be executed to monitor the quality of the deliverables.
- How often or when the quality control activity will be performed.

Project Deliverable	Deliverable Quality Standards/ Completeness and Correctness Criteria	Quality Control Activity	Frequency/Interval
Framework	QC1. Conforms to expert commentary regarding clarity and conciseness (95%)	Information mapping Technical editor review Core Team review Review Team review	Weekly by topic Weekly by topic Weekly by topic Monthly
Framework	QC2. Aligned with industry best practices (90%)	Project Management Institute alignment per Project Management Book of Knowledge, 3 rd edition Core Team review Review Team review	Once during overall framework design Weekly by topic Monthly
Framework	QC3. Aligned with UW best practices (90%)	UW Office of Quality Improvement alignment per Symposium 2006 training and documentation Review Team review	Once during overall framework design Monthly

Project deliverable	Deliverable quality standards/completeness and correctness criteria	Quality control activity	Frequency/Interval
Framework	QC4. Apply prioritized changes per Review Team review (95%)	Document, prioritize, publish change requests Apply change requests per <u>Project Management – Review Team Commentary by Action (1/6/06)</u> and update change control documentation	Monthly Weekly
Project Management Advisor (PMA)	QC5. Meets ease of use criteria (90%)	Establish & document evaluation criteria Preliminary prototype feedback per criteria Review Team review per criteria Usability test per criteria	Once during initial prototype design Weekly during prototype design Monthly Once prior to each phase/interim version release conclusions
Project Management Advisor (PMA)	QC6. Meets UW Web accessibility standards per http://www.wisc.edu/policy/wwwap.php See: http://helpdesk.doit.wisc.edu/page.php?id=1157 (Phase 1 – 90%) (Phase 2 – 100%)	DoIT accessibility standards committee review	Once prior to each phase/interim version release
Project Management Advisor (PMA)	QC7. Supports cross-browser access per Help Desk documentation http://helpdesk.doit.wisc.edu/page.php?id=3207 (Phase 1 – 90%) (Phase 2 – 100%)	Cross-browser test by Help Desk	Once prior to each phase/interim version release
Project Management Advisor (PMA)	QC8. Accurate incorporation of framework into PMA (100%) Apply version control to all PMA changes (100%)	Routine framework developer audit of PMA	Weekly during each change cycle
Project Management Advisor (PMA)	QC9. Completeness and correctness of Web linking (100%)	Routine framework developer audit Final go-live test	Monthly testing Once prior to each phase/interim version release
Project Management Workshop	QC10. Structured per good training standards (95%)	Delivery consultation by training provider	Biweekly during workshop design
Project Management Workshop	QC11. Accurate communication of framework (95%)	Core Team review	Biweekly during workshop development
Project Management Training Plan	QC12. Addresses all DoIT project management skill levels (95%)	Group manager survey Group manager review Core Team review Sponsor review	Once during plan design Once prior to plan publication Monthly during plan development

			Monthly during plan development
Resolve project management gaps per Appendix A	QA13. Gaps resolved per Appendix A (100%)	Assessment and reporting of satisfactory gap resolution	Once per project phase completion

4. Project Quality Assurance

The focus of quality assurance is on the processes used in the project. Quality assurance ensures that project processes are used effectively to produce quality project deliverables.

The following table identifies:

- The project processes subject to quality assurance.
- The quality standards and stakeholder expectations for that process.
- The quality assurance activity – such as a quality audit or reviews - that will be executed to monitor that project processes are properly followed.
- How often or when the quality assurance activity will be performed.

Project Process	Process Quality Standards/ Stakeholder Expectations	Quality Assurance Activity	Frequency/Interval
QA1. Develop/refine project charter	100% compliance with framework	Audit charter updates by phase	Once per project phase
QA2. Develop/refine project plan	100% compliance with framework	Audit plan content and updates, project priorities, and task estimation	Once per project phase
QA3. Execute and control project per project plan	95% compliance with framework	Audit the following project activities:	Weekly Monthly Monthly
QA4. Approve each project stage	100% compliance with framework	✓ Quality ✓ Communications ✓ Project progress	Once per project phase/stage
QA5. Close project with post project review	100% compliance with framework	Audit stage checkpoints Audit project reviews by phase	Once per project phase

5. Quality Team Roles & Responsibilities

The following identifies the quality-related responsibilities of the project team and lists specific quality responsibilities.

Project Team Role	Assigned Resource	Quality Control and Quality Assurance Responsibilities
Executive Sponsor Project Sponsor	Name3 - Executive Sponsor Name2 - Project Sponsor	QA4: Approve each project stage per framework checkpoints QA1, QA2, QA3, QA5: Assess practice of project management framework activities QC13: Assess satisfactory resolution of project management gaps
Project Manager	Name1 - Project Manager	QA3: Assure practice of quality control measures and communications in project plan QC1, QC2, QC5: Assure framework and PMA reviews by Core Team, Review Team, usability testers, Web accessibility testers, cross-browser testers QC1, QC2, QC5: Communicate prioritized changes per Review Team review QC3, QC4: Assure deliverables meet broad set of UW and DoIT project manager requirements QC12: Assure training plan addresses all DoIT project management skill levels QC13: Assure project management gap resolution
Lead Framework Developer	Phase 1 – Name4 Phase 2 – Name5	QC6: Confirm PMA meets Web accessibility standards QC7: Confirm PMA provides cross-browser access QC8, QC9: Test PMA for accurate delivery of framework and completeness of linking
Core Team Member	Name1 - Project Manager, Name4, Name6, Name5	QC4: Prioritize changes per Review Team review QC11: Assure workshop accurately delivers framework
Technical Editor	Name7	QC1: Edit framework to assure it is clear and concise
Web Accessibility Committee	DoIT committee	QC6: Test PMA for Web accessibility
Cross-Browser Testers	DoIT Help Desk	QC7: Test PMA for cross-browser support
Training Consultant	Name8	QC10: Assure workshop structured per good training standards

6. Quality Tools

The following lists the tools to be used to support quality management implementation and the purpose or use of the tool.

Tool Name	Tool Purpose/Use
Project Management Advisor	Document the project management framework stages and activities to be applied to this project
Project Management Framework Templates	Document the project management deliverables to be produced by this project
My Webpace Phased Deliverables Directories	Directory structure used for version control of framework and PMA
My Webpace Phased Review Team Feedback Directories	Directory structure used for comments and change requirements from the Review Team and the Usability testers
Web Accessibility Testing Tool: Bobby	Used to test PMA compliance with Web accessibility standards.
DoIT Help Desk Browser Testing Standards	Used to test PMA compliance with Web browser support standards.

Quality Control Log

Exception ID Number	Review Date	Deliverable Reviewed	Findings	Resolution	Resolution Date
QC-Exc-1					
QC-Exc-2					

Quality Assurance Log

Exception ID Number	Review Date	Process Reviewed	Findings	Resolution	Resolution Date
QA-Exc-1					
QA-Exc-2					

8. Appendix

GAP RESOLUTION TARGETS

DoIT conducted a study in 2005 to assess gaps in DoIT's project management practices. Appendix A summarizes gap findings and identifies the targeted Project Management Improvement project phase for resolving each gap. See Appendix B for the gap assessment report.

Table 1 lists each gap and identifies (1) the means to progress toward resolution of the gap via the project management framework and (2) a targeted phase for resolution. Tables 2 and 3 summarize the gaps targeted for resolution in Phases 1 and 2, respectively. Table 4 summarizes the gaps targeted for resolution in Phases 3 and beyond. Target dates for completion of project phases are specified in the project plan.

In general, the framework alone will not resolve gaps. Rather, organizational implementation of the framework is necessary, including implementation of appropriate tools and training as well as adjustment of thinking and culture to align with the framework. This is reflected in the targeted phase for resolution, which often is later than the expected completion of the indicated framework components.

For each phase of the project management improvement project, the project manager will plan, execute, and control progress toward resolution of gaps as specified below. The project sponsor and project manager will assess and report satisfactory resolution of these gaps as part of the acceptance checkpoint at the end of each project phase.

Table 1 – Gap Resolution Plan by Category

This table itemizes all gaps identified in the 2005 study and maps the resolution plan the project management framework and a project phase for framework implementation.

Gap Category	Gap	Project Management Framework Stage	Project Management Framework Activity	Project Management Improvement Phase
Cross-Unit Leadership	1. Inadequate assessment of interdependences between projects in terms of resource allocation and customer impact	1 - Conceptualize	Strategic Alignment	3+
	2. Inadequate controls on project definition, launch, and impact on other projects	1 - Conceptualize	Strategic Alignment	3+
	3. Inadequate controls on project priority setting	1 - Conceptualize	Strategic Alignment	3+
	4. Inadequate controls for major project commitments, timelines, and interdependences	1 - Conceptualize	Strategic Alignment	3+
Unit Leadership	1. Inadequate setting of project's rationale and strategic goals	1 - Conceptualize	Strategic Alignment	2-3
	2. Inadequate explicit communications of project's rational and strategic goals	1 - Conceptualize 2 - Initiate	Communication Management	2-3
	3. Inadequate controls identifying and verifying customer need	1 - Conceptualize 2 - Initiate	Scope Management Requirements Management	2-3
	4. Inadequate controls identifying and verifying sponsor support	1 - Conceptualize 2 - Initiate	Role Management	2
	5. Inadequate working relationship with customers during project phases	All	Role Management Communication Management	2
Project Management Culture	1. Inadequate control for unit leaders to determine which projects need or do not need formal project management	1 - Conceptualize	Role Management	2

Gap Category	Gap	Project Management Framework Stage	Project Management Framework Activity	Project Management Improvement Phase
Project Management Culture (cont.)	2. Inadequate control for determining skill levels needed for project manager	1 - Conceptualize 2 - Initiate	Role Management	2
	3. Project Managers do not necessarily have formal project management training	All	All	2
	4. Lack of processes for project initiation, go/no-go, move from project to production	All	Checkpoints	1-2
	5. Need for project management process	All	All	1
	6. Need for decision and process strategies	All	All	1
	7. Inadequate pricing strategy for customers	2 - Initiate 3 - Plan	Budget Management	2
	8. Need for a "Project Management Apprentice Program"	All	All	2
	9. Distribution of templates designed as helpful approaches	All	All	2
	10. Need for customers to participate in functional requirements workshops	2 - Initiate	Scope Management Requirements Management Role Management	2

Table 2 – Targeted Gap Resolution for Phase 1

This table summarizes the gaps targeted for resolution at the conclusion of Phase 1.

Gap Category	Gap	Framework Stage	Framework Activity	Improvement Phase
Project Management Culture	5. Need for project management process	All	All	1
	6. Need for decision and process strategies	All	All	1
	4. Lack of processes for project initiation, go/no-go, move from project to production	All	Checkpoints	1-2

Table 3 – Targeted Gap Resolution for Phase 2

This table summarizes the gaps targeted for resolution at the conclusion of Phase 2.

Gap Category	Gap	Framework Stage	Framework Activity	Improvement Phase
Unit Leadership	1. Inadequate setting of project's rationale and strategic goals	1- Conceptualize	Strategic Alignment	2-3
	2. Inadequate explicit communications of project's rational and strategic goals	1- Conceptualize 2 - Initiate	Communication Management	2-3
	3. Inadequate controls identifying and verifying customer need	1- Conceptualize 2 - Initiate	Scope Management Requirements Management	2-3
	4. Inadequate controls identifying and verifying sponsor support	1 - Conceptualize 2 - Initiate	Role Management	2
	5. Inadequate working relationship with customers during project phases	All	Role Management Communication Management	2
Project Management Culture	1. Inadequate control for unit leaders to determine which projects need or do not need formal project management	1 - Conceptualize	Role Management	2
	2. Inadequate control for determining skill levels needed for project manager	1 - Conceptualize 2 - Initiate	Role Management	2
	3. Project Managers do not necessarily have formal project management training	All	All	2
	4. Lack of processes for project initiation, go/no-go, move from project to production	All	Checkpoints	1-2
	7. Inadequate pricing strategy for customers	2 - Initiate 3 - Plan	Budget Management	2
	8. Need for a "Project Management Apprentice	All	All	2

Gap Category	Gap	Framework Stage	Framework Activity	Improvement Phase
	Program"			
Project Management Culture (cont.)	9. Distribution of templates designed as helpful approaches	All	All	2
	10. Need for customers to participate in functional requirements workshops	2 - Initiate	Scope Management Requirements Management Role Management	2

Table 4 – Targeted Gap Resolution for Phase 3 and Beyond

This table summarizes the gaps targeted for resolution at the conclusion of Phase 3 and beyond.

Gap Category	Gap	Framework Stage	Framework Activity	Improvement Phase
Cross-Unit Leadership	1. Inadequate assessment of interdependences between projects in terms of resource allocation and customer impact	1 - Conceptualize	Strategic Alignment	3+
	2. Inadequate controls on project definition, launch, and impact on other projects	1 - Conceptualize	Strategic Alignment	3+
	3. Inadequate controls on project priority setting	1 - Conceptualize	Strategic Alignment	3+
	4. Inadequate controls for major project commitments, timelines, and interdependences	1 - Conceptualize	Strategic Alignment	3+
Unit Leadership	1. Inadequate setting of project's rationale and strategic goals	1 - Conceptualize	Strategic Alignment	2-3
	2. Inadequate explicit communications of project's rational and strategic goals	1 - Conceptualize 2 - Initiate	Communication Management	2-3
	3. Inadequate controls identifying and verifying customer need	1 - Conceptualize 2 - Initiate	Scope Management Requirements Management	2-3