Continuous improvement

These materials have been updated to address changes made in the 2011 version of the Training Package.

Table of contents

Implement continuous improvement

Important note

These training and assessment materials make reference throughout to Open Learning Institute (2006) *Frontline Management Learning Guide – Continuous Improvement*. It is recommended that this publication should also be purchased when delivering and assessing this Unit of Competency.

Implementing continuous improvement systems and processes

Why continuous improvement?

Within any work environment, there will always be scope to improve operations and the production of the product. New technologies, new management methods, changing workforces and changing markets are just a few parameters that may provide opportunities for improvement in the way a product is produced and/or improvement in the product itself.

Continuous improvement is based on the premise that any work environment will always be able to benefit from the endeavour to 'do things better.' In addition, it accepts that in the context of the whole business, there will always be room for improvement – continuous improvement.

In the meat industry, as an example, vacuum packaging and Modified Atmosphere Packaging (MAP) technologies introduced over the past decade have enabled the shelf life of product to be significantly improved. The result is that meat can be reliably exported to more distant markets. The adoption of the technology has allowed new market accesses and greater profitability. However it would be naive to believe that current technologies will be the best that will ever be available. Ever developing technologies will allow greater flexibility in package sizes, faster packaging rates and potentially even greater shelf life efficiencies. The workplace should be ready to investigate the possibility of adopting any of these improvements, as they become available.

Continuous improvement is based on the thinking that 'little step improvements' rather than 'big improvements' will have a greater beneficial outcome for a business. This is because little step improvements are generally less costly and add up to

improved productivity and performance in the long run. Little step improvements in all aspects of the business fosters a culture where everyone has a role in 'seeing what we can do better.' The result can be better morale, a focussed and committed workforce and a greater sense of ownership and being part of a team.

Continuous improvement can be viewed as a strategy for:

- on-going production efficiencies

- increasing workplace health and safety

- improved management of workforce and the workplace environment

- increasing product quality and integrity

- meeting changing legislative and market requirements

- being ready for predicted future market influences.

Continuous improvement is a strategy for maintaining excellence and a competitive edge. Continuous improvement is applicable to all aspects of any workplace.

In the context of a meat processing business, continuous improvement has a role in management of livestock, the slaughter chain, boning and packaging, management of staff payroll, administration, marketing and accounts. For example:

- reducing the number of carcase rejects due to poor trimming

- reducing the number of offal rejects due to poor trimming

- investigating cutting board hygiene to reduce bacterial contamination

- investigating hand washing techniques and procedures to reduce cross contamination.

All these examples require certain actions or processes to deliver the outcome. Testing and measurements will be required to determine the success of these actions. From time to time, these issues will need to be revisited to ensure continued good results or continuous improvement.

What is required to implement a successful continuous improvement strategy in the workplace?

Continuous improvement, Quality Assurance and HACCP

Continuous improvement is the underpinning basis of Quality Assurance and HACCP. Whether an in-house QA program is used or ISO accreditation is achieved, the QA

system will depend on regular checks, modification and improvement to procedures and to the work environment. The implementation of HACCP and Quality Assurance Systems do not end with the compliance following an auditor's report. Successful maintenance of any HACCP and QA systems are based on regularly checking and improving the procedures and system in place.

Whilst the examples provided above are restricted to the business itself, in fact, the organisation's continuous improvement processes are applicable to all staff within the workplace. Successful implementation will depend on co-operation, participation, and recognition of responsibilities in order to see successful improvement implemented.

How is team commitment to continuous improvement developed?

The implementation of HACCP and Quality Assurance is often a daunting task in the workplace. Most companies strive to reach that end goal of the successful final HACCP audit, or certification and achieving accreditation. Success is based on the concept of an end to the work.

Continuous improvement, however, challenges this concept since the process will continue indefinitely. In fact, maintaining the HACCP plan or QA system is an ongoing process requiring monitoring and adjustment along the way.

This poses a challenge to management and supervisors if staff are to remain enthusiastic and committed to the strategy. Good communication and understanding of the greater goals are essential. Equally important is the recognition of each step in the improvement continuum or process. With each improvement step, large or small, there will be benefits that need to be identified, measured, communicated and celebrated.

When discussing company operations and business systems, improvement implies or infers change. The principles that apply are:

- identification of the greater goal and intermediate step by step goals if applicable

- identification of the achievable improvement(s) that will work towards that goal:

    – setting realistic objectives

    – consideration of staff capabilities (e.g. training)

    – consideration of the costs

- making sure that improvements are within workplace objectives/business plan

- identification of realistic timeframes

- identification of the appropriate individuals or team to implement the change/improvement

- communication of the goals, objectives and timelines to all relevant stakeholders, particularly the people that the change/improvement is most affecting

- implementation of the change with a 'Plan, Do, Check, Act' process.

What is the role of the supervisor in continuous improvement?

Supervisors are in a unique position to support, develop, oversee and manage continuous improvement. They have working relationships with management and workers. This means that they are able to see the big picture (and the greater goal) and understand the processes and work required to get there. Supervisors need to be open to continuous improvement including suggestions from their workgroup and to recognise the impact that continuous improvement has on people and tasks.

Supervisors have a responsibility to:

- champion continuous improvement as a normal, valuable and satisfying part of work

- act as a model by setting and achieving personal continuous improvement goals

- monitor operations and performance and identify areas for improvement

- encourage, respond to and evaluate suggestions for improvement

- negotiate with management for resources if required

- involve those closest to the work, processes, problems and solutions (i.e. workers) in the improvement processes

- devolve responsibility for continuous improvement to teams and individuals

- support workers and other supervisors in the continuous improvement process

- review continuous improvement processes and if necessary bring the process back into focus.

Coaching and mentoring

Supervisors use coaching to support workers in continuous improvement. The supervisor works with the employee to build and enhance the worker's skills and experience. This can involve:

- conducting informal training sessions

- identifying suitable off-site training courses and workshops to attend

- providing information, suggesting suitable books or internet sites for research.

In some cases the role of the coach is to simply answer the employee's questions. This relationship helps all workers to understand their roles and responsibilities and to perform their duties at the required, or even higher level.

Mentoring is provided by supervisors, workers and managers with a longer association in the organisation and with whom the worker feels comfortable to discuss issues and problems. The worker is able to draw on and learn from the mentor's knowledge and previous experiences. Mentors are not necessarily the employees' direct supervisor or manager. An effective supervisor will set up these relationships wherever and with whoever they will work.

Mentors meet with the worker formally or informally to discuss problems or difficulties and the worker's progress and plans to help achieve the employee's goals. Often mentoring is a voluntary and informal process. Some organisations, however, consider this process works best in a more formal arrangement.

Maintaining commitment

Supervisors also have a responsibility to work with management and maintain their commitment to continuous improvement.

To maintain commitment to continuous improvement at all levels, the supervisor should:

- monitor and measure the results of improvements e.g. showing increased yield, savings, increases in markets

- report progress to workers and managers e.g. in bulletins, in charts on the notice board, verbal reports to individuals and groups on the floor

- recognise and acknowledge positive efforts and outcomes.

Monitoring and reviewing performance

How are operations monitored and reviewed?

Plan, Do, Check, Act

In order for improvement to be focussed and to truly work towards the greater goal, there must be strategies in place to check the outcomes of the change, review how successful the changes have been and plan or make adjustments as necessary. This results in a continual cycle of planning, implementing the planned improvement, checking the outcome of the actions and acting on the review – planning new changes, continuing on current course of action or ceasing that particular strategy.

The Plan, Do, Check, Act cycle
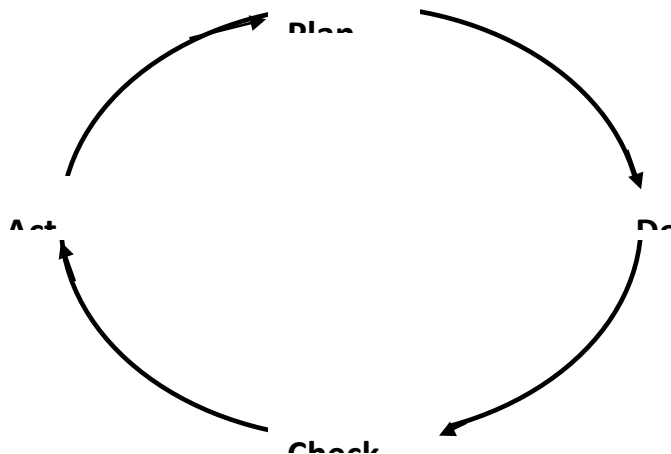
The Plan, Do, Check and Act cycle provides a valuable tool for monitoring and adjusting performance. As a demonstration of how this can work, consider the example of a meat processing business that has a problem with product shelf life not meeting the requirements of a particular market. A HACCP plan has been developed for the organisation and has been in place in the business for some time.

Plan

To plan:

- Identify the greater goals and the immediate goals that you are trying to achieve. For the example provided, the greater goal of the organisation is

product quality and integrity, with the immediate goal of increasing the shelf life of the product.

- Identify problems and analyse the cause(s). For the example provided, there may be many problems and further testing or technical expertise may be required to assist in identifying the number and extent of the problems.

- Identify as many solutions, actions and suggestions for reaching the goal as possible. Staff involvement will assist in this process, as will reference to current HACCP plans and quality assurance systems.

- Assess the validity of each suggestion in terms of its likelihood for success:

    − are staff capable of achieving the outcome or is training required?

    − are major structural works or equipment purchases required?

    − is the suggestion affordable?

    − is the cost reasonable in terms of the expected benefit?

    − is the action achievable within a reasonable and relevant timeframe?

    − is outside expertise, testing, consultancy required?

- Prioritise the suggestions/actions in relation to each other and in terms of the total business need. Often good suggestions for improvement arise which, although valid, are not of the highest priority for the business at the time.

- Develop the action ready for implementation.

Do

Once an improvement plan has been accepted, the action needs to be implemented. Timeframes and objectives should be clearly communicated to all stakeholders. Responsibilities and authorities should be clearly understood. A special work-team may be formed or the improvement may be implemented within current work arrangements. Workplace training may be required. Regular communication will be ongoing. Documentation of the changes, particularly in relation to current HACCP and QA systems, is essential. The responsibility for this must be clearly identified.

Check

Questions that should be asked include:

- how successful was the change?

- did it achieve the intended outcomes?

- were there unintended outcomes – were they positive or negative in their impact?

- how is the success measured?

The organisation's systems and technology are used to monitor progress, assess the success of the change and to identify ways in which further improvements may be possible. In fact, the recording and measuring of any continuous improvement program should be done as much as possible within the normal workplace systems such as HACCP or QA or workplace procedures or policies etc. Technologies and techniques used in the organisation should be utilised as much as possible, for example temperature charts, in-house microbiological checks, payroll systems and staff time sheets.

For the example given, reference and documenting changes to the HACCP plan or systems will be essential. Where changes to the various practices along the chain may have been implemented, documentation of those changes, training and dates of implementation should be recorded. There may have been changes made to the business itself such as chain speed, chiller temperature or other changes in technology or plant.

Examining systems and documentation such as on-site testing of carcases, testing at various points along the chain and analysing temperature charts or time sheets may all contribute to assessing various actions or improvements.

Another important measure of success will be the satisfaction of the customer. An improved shelf-life will mean that the product will reach current markets with reduced product rejection, defined shelf life parameters that the customer can rely on and potentially access new markets and new customers. Positive customer feedback is one of the best measures of success. Customer satisfaction is the ultimate goal.

Act

Decisions need to be made based on the outcomes of the check process. The project team must decide if:

- adjustments need to be made

- the improvement action needs to continue unchanged

- an entirely new course of action is required

- the job is completed and no further action is necessary.

Once a course of action is determined, it should be acted upon, and the 'Plan, Do, Check and Act' cycle begins again.

For the example provided, it is unlikely that consideration of the product shelf life will be a one-off job. Even if the product does reach acceptable shelf life in the first attempts for its improvements, there will always be on-going testing to ensure microbiological acceptability is maintained. New technologies or chain management strategies may become available to enhance shelf life even further. Thus product shelf life may be continuously improved.

Perhaps more importantly however is the context of the greater goal of 'product quality and integrity.' Once shelf life is tackled there will always be many other aspects that can be worked on, providing continuous improvement. Shelf life was just one aspect of the company's issues.

How are improvement opportunities evaluated?

Alternative approaches to problems or issues need to be evaluated for their suitability. Not all suggestions for improvement are going to be good, or cost effective, or resolve the problem to everyone's satisfaction. The company must have a process for considering improvement suggestions and making decisions.

Criteria to consider in evaluating improvement opportunities include:

- does the 'improvement' actually resolve the problem?

- how will this affect internal and external customers?

- how will this affect the quality of the product?

- how will this affect the task and the work team involved?

- what effects will this improvement or change have on other parts of the organisation?

- how much will the improvement cost – do we have all the resources we need for this change?

- will this improvement create other problems? what sort?

Tools that can be useful in answering these questions include SWOT analyses (Strengths, Weaknesses, Opportunities and Threats). These tools look at the internal organisational factors of the change (staff, costs, equipment requirements etc.) and the external influences on the solution, such as community concerns, competitor response or market response.

How are improvements communicated?

The outcomes of any improvement must be documented and communicated so all stakeholders understand the change and how it is relevant to them. Existing systems for communication, education and documentation should be utilised where applicable.

For example, if in the previous example, the shelf life problem was improved by reducing chiller temperatures and ensuring that carcases were not overcrowded in the chiller then this change of procedure must be communicated and understood by all workers in the chiller areas. Documentation needs to be part of current systems for reference. The change must be incorporated into the SOPs. The business's system for educating workers of changes to SOPs must be used to ensure effective communication of this change. Another stakeholder that may wish to know of the change may be the customer. Shelf life dates will be reflective of the new and verified shelf life.

Methods of communication

There are many methods of communicating other than documentation and all are valuable. Communication may be spoken, written, or non-verbal but includes the use of signs, signals, symbols and pictures. Communication may be within reports, newsletters, meeting minutes, workplace documentation, e-mails, memos, letters, status reports, plans and projections, technical manuals, journals, financial records, presentations, training sessions, conversations and discussions.

The level and nature of the communication needs to be relevant to the situation and targeted at a level suitable for the audience. Communication may be with colleagues, team members, superiors, customers, clients and external parties from a range of cultural, social and ethnic backgrounds. Technical terms need to be understood by each member of the audience at a level appropriate to their own roles.

As an example, where a continuous improvement project is in progress for the management of hides and skins in the abattoir, a fellow team member will need to understand the grading system used to measure the quality of each hide.

However where the outcomes of the continuous improvement project are reported in a workplace newsletter, the readers will not need to have intricate knowledge of the grading system. They may need to know simply that the hides are graded and that there has been an improvement in the number of hides classed into the highest category.

Technical terms may relate to product and product quality, production details, price, sales and turnover, profits and losses, return and new custom, market penetration, workplace statistics, advertising distribution and coverage – just to name a few.

Implementing opportunities for further improvement

How are recommendations for improvement documented and presented?

Improvement opportunity reports

Improvement opportunity reports (IORs) are a form of record keeping used in many organisations to track changes, improvements or to record how issues and problems are resolved. There is no standard format for an IOR and each organisation will develop an IOR process according to its own needs. An example of a typical, fairly detailed IOR is given on the next page.

Continuous improvement is an important part of any Quality Assurance system and evidence that a business is meeting this requirement is documentation showing that improvement opportunities have been identified and action taken for their implementation.

Record of completed assessment

Example only

Company:	Work group:
Improvement opportunity report	
Improvement number:	**Date:**
What goal/expected outcome does the improvement relate to? …………………………………………………………………………………	
What is the expected improvement? …………………………………………………………………………………	
What actions are you going to take to achieve the improvement? …………………………………………………………………………………	
Who will be responsible for making sure improvement actions are implemented? …………………………………………………………………………………	
What priority have you put on this improvement? (circle) **HIGH MEDIUM LOW** Justify ……………………………………………………………………………… …………………………………………………………………………………	
When will you start implementing the improvement? …………………………………………………………………………………	
When will you complete the improvement? …………………………………………………………………………………	
What training is required? …………………………………………………………………………………	
What other documentation do you need to refer to, or record information in? …………………………………………………………………………………	
Are there legislative/regulatory requirements to consider? **YES NO** Describe …………………………………………………………………………………	
How will you know if the required result has been achieved? …………………………………………………………………………………	

Progress reports

Progress needs to be monitored and reported to evaluate success and maintain the commitment to continuous improvement. Progress can also be reported on an improvement opportunity report.

Example only

Progress report:	Date:
What progress have you made to date? ………………………………………………………………………………… …………………………………………………………………………………	
Has the improvement action been completed? **YES NO** Date completed …………	
What results have been achieved? ………………………………………………………………………………… …………………………………………………………………………………	
Any additional information? ………………………………………………………………………………… …………………………………………………………………………………	

What reference must be made to documentation, procedures and legislation?

Within the context of a continuous improvement strategy, any change must be within regulatory requirements and work within a business's work practices, ethics and business plan.

Examples of documentation and references that may be necessary within a continuous improvement strategy include:

- within the workplace:

    – Standard Operating Procedures

    – Improvement opportunity reports

    – workplace specific procedures, policies and plans

    – work area specific procedures, policies and plans

    – ethical standards, values and obligations

- – vision statements, mission statements

- – Quality Assurance documentation

- – HACCP

- – workplace newsletters

- occupational health and safety

  - – safety manual

  - – OH&S legislation

  - – health department requirements

  - – workplace OH&S programs

  - – Australian standards and codes of practice

  - – The National Guidelines for Health and Safety in the Meat Industry

- national standards and codes:

  - – AS4696:2007 *Australian Standard for the hygienic production and transportation of meat and meat products for human consumption*

  - – State Acts

- other relevant legislation, regulation, standards, guidelines, controls and codes:

  - – equal opportunity, anti-discrimination and sexual harassment

  - – industrial awards, agreements

  - – commercial law including fair trading, trade practices

  - – corporate law, including registration, licensing, financial reporting

  - – taxation

  - – consumer law

  - – environmental and waste management

  - – EPA guidelines and requirements

  - – animal welfare

- local government laws

- council permits for constructions

- other hygiene and sanitation requirements.

What resource requirements must be considered in continuous improvement strategies?

Examples of resource considerations when implementing continuous improvement strategies may include (over and above considerations listed above):

- personnel – manning levels, shifts, allocation to work areas, training, existing work teams, personal protective equipment

- premises – structural changes, site redevelopment, future plans

- equipment – purchases, maintenance, quantity, function, expertise for operation

- ingredients and materials – stock, supply, suppliers (preferred suppliers), quantity, storage and rotation, ordering, payment, QA of incoming stock i.e. verification of quality of stock, ingredients, materials

- finance – capital, cash flow, future projections

- customer specifications

- importing country requirements

- stakeholders – company owners, directors, shareholders, financiers, management and employees, unions and other employee associations, employer associations, suppliers, customers, consumers, competitors, regulators and inspectors.