Qudos Management Pty. Ltd.
Quality | OHS | Environmental management
320 Adelaide Street, Brisbane, QLD 4000
GPO Box 111, Brisbane, QLD 4001, Australia
Tel: +61 7 3010 9259
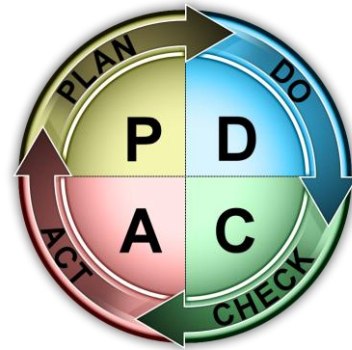Fax: +61 7 3010 9001
Web: www.qudos-software.com

Article

Using the PDCA cycle in the real world

It is widely known that the underlying concept behind the ISO 9001 Quality Management standard is the PDCA cycle.

You didn't know that? Oh well, perhaps it's not that widely known then – but at least now you do know.

The what cycle?. Hmm... perhaps we had better start from the beginning.

ISO 9001 and the Process approach

The ISO 9001 standard suggests that a process approach is taken to quality management systems, and is based on 8 Quality principles. They are:

1. Customer focus
2. Leadership
3. Involvement of people
4. Process approach
5. System approach to management
6. Continual improvement
7. Factual approach to decision making
8. Mutually beneficial supplier relationships

But perhaps the key concept underpinning the standard is the PDCA cycle. As mentioned above, ISO 9001 promotes a Process Approach to quality management, and the PDCA cycle can be applied to **all** processes.

Overview of the PDCA cycle

It is a 4-step methodology for business process improvement. The stages are:

Plan	Establish objectives and how they will be achieved
Do	Put the plan into effect
Check	Verify that the process achieved the desired results
Act	Analyse any differences and their causes. Take action to improve things.

The PDCA cycle was popularised by Dr. W. Edwards Deming – one of the leading quality management gurus. It is sometimes referred to as the PDSA cycle – with the Check stage being replaced by Study. The ISO 9001 standard refers to PDCA, so we will run with that choice within this article.

Let's take a look at what activities and documents might relate to applying the PDCA cycle in the overall context of your quality management system.

PLAN	DO
Planning your system could involve:	Implementing the system could include:
- Setting up an Organisation chart - Preparing Job descriptions or Role Statements - A List of authorities – concisely indicating who can do what - Establishing and regularly reviewing a register of relevant standards / legislation – perhaps subscribing to a notification scheme - Considering how those requirements affect your organisation - Establishing an overall Quality policy – and perhaps some	- Ensuring that work is performed by adequately trained and competent people - Supervision where necessary - A system of keeping training records - Reminders about training that needs a refresher course - Performing work in accordance with plans, contracts, and procedures - Ensuring that procedures and other documents are available where needed - Ensure that work is performed in a suitable environment – physical and otherwise - Access to suitable equipment

subsidiary policies such as referring to privacy, confidentiality, customer complaints, Various HR policies
- Communicating those policies to workers and other interested parties e.g. In manuals, on intranet, on display in reception or main office, in management system software, published on web site
- Setting measurable objectives for the organisation and business units
- Setting Targets or KPIs for individuals and planning their development
- Establishing forms of contract – price lists, rates/fee structures, terms and conditions
- Establishing plans for how quality will be assured for specific projects or projects

and tools
- Necessary infrastructure is in place – may include information technology resources
- Maintaining control of subcontracted   services and purchased items
- Maintaining records of activities

ACT

If a check has found discrepancies between the plan and what was done, we now need to analyse the cause(s) and act to improve the situation. In the quality management context, a discrepancy between the plan and reality is typically referred to as a nonconformance. there are 3 main types of improvement action:

- Action to fix a nonconformity
  This is action taken to rectify the immediate problem
- Corrective action
  This is action to eliminate the cause or causes of the nonconformance. Sometimes we find that a problem only

CHECK

Checking could mean any form of monitoring or measurement activity. In quality systems it might include:

- Asking customers about their satisfaction with a product or service – perhaps via a survey
- Monitoring using any of the senses – visual inspection, listening, tasting, smelling, feeling
- Monitoring or measuring with equipment – in which case the equipment may need appropriate care and calibration
- Other feedback loops – such as product reviews or media

<table>
<tr>
<td>

occurs when two or more contributing factors combine
- Preventive action
  This is action to eliminate the cause or causes of a potential nonconformance – e.g. When we have identified that something may go wrong if we don't act now to prevent it.

</td>
<td>

articles, complaints or returned goods, requests for refunds etc.
- An important pro-active check is performing Internal audits to verify that procedures and plans are being followed in practice – and are effective. Internal audits are a mandatory requirement of ISO 9001. Your auditors should be trained, and your audit program designed to focus on verifying the things that really matter!

</td>
</tr>
</table>

OK, so that's the 'big picture' stuff. Let's consider applying the PDCA cycle in the general context of performing a service for a customer.

Requirements, activities and documents might include:

PLAN	DO
- Legal & regulatory requirements - Corporate policies / procedures - Price list / Schedule of rates - Terms and conditions - Risk assessment - Contract (quote/acceptance) - Agreed time frame - Any contract variations - Job sheet / project plan / quality or QESH plan - Allocate the job	- IT infrastructure for communications/reports etc. - Performed by training / competent people - Work as per job sheet, plans, procedures - Use of equipment and resources - Work in suitable environment - Purchase items / subcontract services required - Record keeping
ACT	**CHECK**
- Fix any problems - Follow-up re customer satisfaction	- Tests at stages of work - Tests on completion - Supervision / Monitoring - Customer feedback / sign-off

Now let's take a look at one specific example: Repairing a vehicle for a customer. Requirements, activities and documents might include:

PLAN	DO
• Legal & regulatory requirements • Industry association guidelines • Insurance company requirements • Manufacturers instructions • Corporate policies / procedures • Estimate • Terms and conditions • Agreed time frame • Any contract variations • Job sheet • Allocate the job	• IT infrastructure for parts sourcing / paint / accounting etc. • Performed by training / competent people or apprentices under supervision • Work as per job sheet • Use of suitable tools and equipment • Work in suitable environment e.g. spray booth • Purchase parts / subcontract any specialist services e.g. audio / upholstery • Record keeping – possibly including use of computer software
ACT	**CHECK**
• Fix any problems • Follow-up re customer satisfaction / insurer	• Checks and tests between stages of work • Checks and tests on completion • Supervision / Monitoring • External inspection • Roadworthy test • Customer feedback / sign-off

As you can see, we have introduced various elements that are specific to the case in question – such as the dealings with an insurance company (very often an integral part of repair contracts). Similar charts may be drawn up to reflect any other process. That exercise in itself will help improve understanding of the process and may lead to some improvements in it.

In the service-based examples above, the Check stage may be supplemented by including the service provided in an internal audit and/or a program of statistical analysis. All control systems need checks and feedback to keep them on track. Management systems are no exception, and internal audits are a key mechanism. To illustrate the importance of internal audits, they are a **mandatory** requirement of standards such as ISO 9001 (Quality), ISO 14001 (Environment), and OHSAS 18001 (Health and Safety).

Further information

This article is complemented by a PowerPoint training presentation: "Using the PDCA cycle in the real world" – available free to Qudos newsletter subscribers. The presentation may be customised for training needs within your own organisation.
The PDCA cycle is further explored in the training presentation "The journey of continuous improvement" included in the Quality Manager toolkit.

Find out more about Qudos unique Internal Auditor training - which combines a CD and 1-day training session to help you achieve better results while saving time and money.

Training services are also available on request.