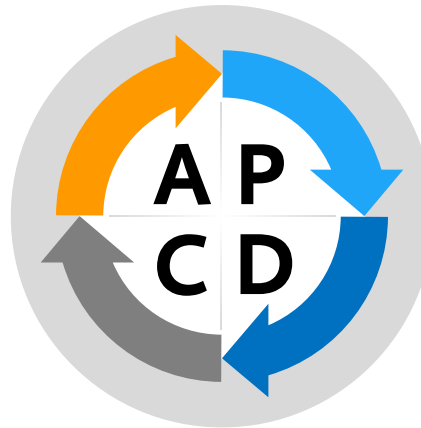


Continuous Improvement Toolkit

PDCA



PDCA

The **PDCA Cycle** is a four-step model for problem solving and continuous improvement.

It provides a simple and structured way for solving problems and creating positive change.

Widely recognized as the basis of continually improving the quality of processes, products, and services.



PDCA

An easy to remember **four** logical sequenced steps . . .

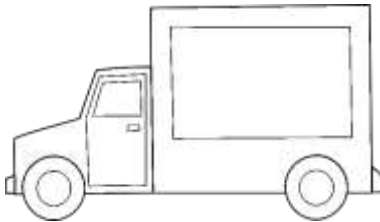


Cycling through Plan, Do, Check, and Act until desired result is achieved is **essential for continuous improvement**

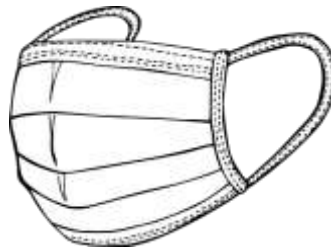
PDCA

The PDCA cycle can be **applied** in most kinds of projects and improvement activities . . .

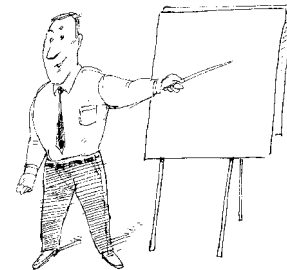
When planning to change the **supplier** of a product or service



When trying to implement a new **safety** program within a facility



When planning to improve the **skill level** of employees in an organization



PDCA

The PDCA cycle can be **applied** in most kinds of projects and improvement activities . . .

When your **marketing** effort is not generating the desired results



When planning to increase the **quality of care** and patient engagement in a hospital



When an **online business** is not producing good results and customers are not converting



PDCA

Another common example is when you are dealing with customer complaints.



You may often need to **review** the complaints and prioritize them

Produce solution ideas to deal with the most frequent complaints

Conduct pilot surveys with sample customers to test new options

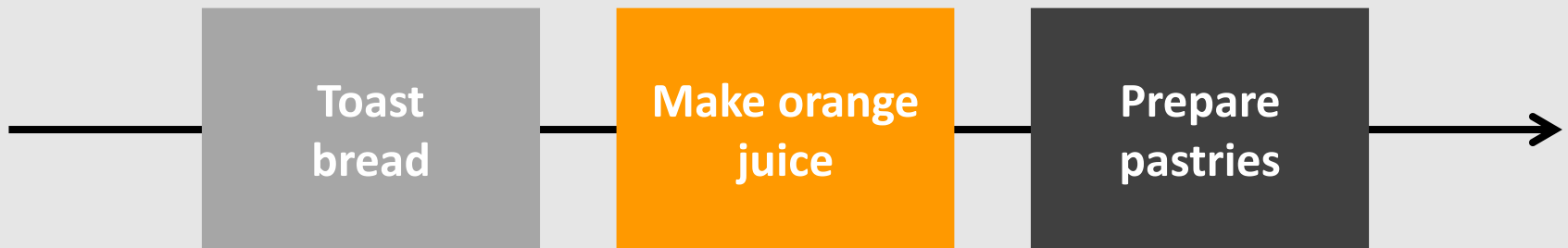
Collect and **analyze** customer data and feedback

Use the lessons learned to **implement** the new options in full scale

What we have just listed is a PDCA cycle

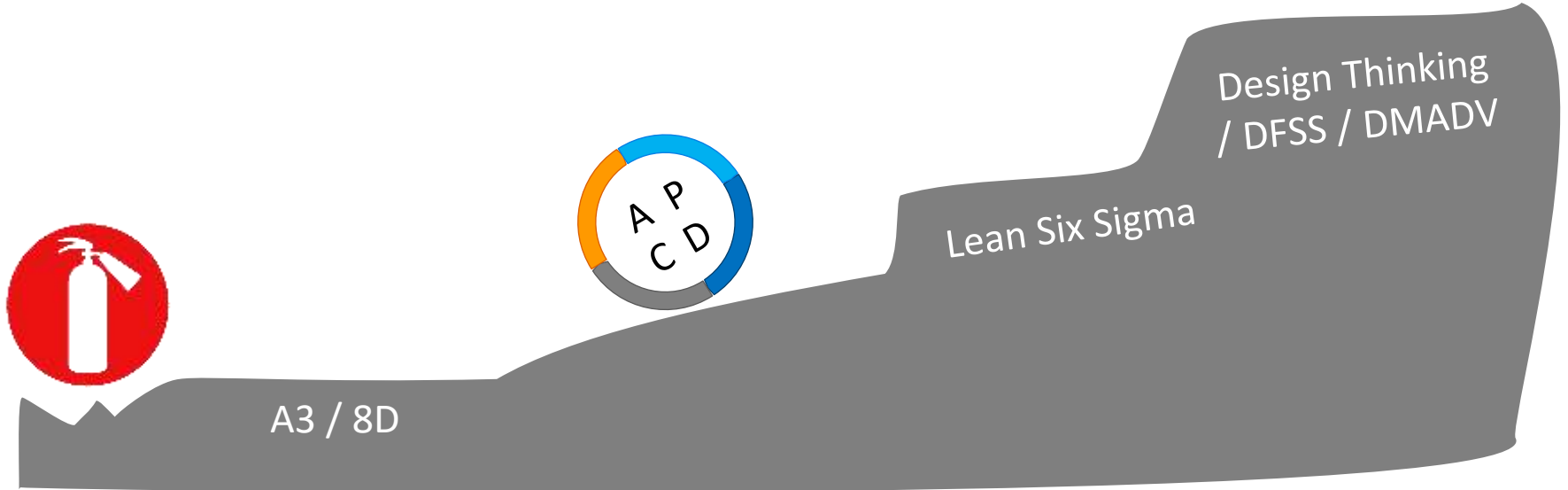
PDCA

The PDCA cycle is particularly effective when intending to make changes to a **process**.



PDCA

PDCA is often used when the solution to the problem is **known**.



Applicable whether the intended improvement is a breakthrough or incremental

PDCA

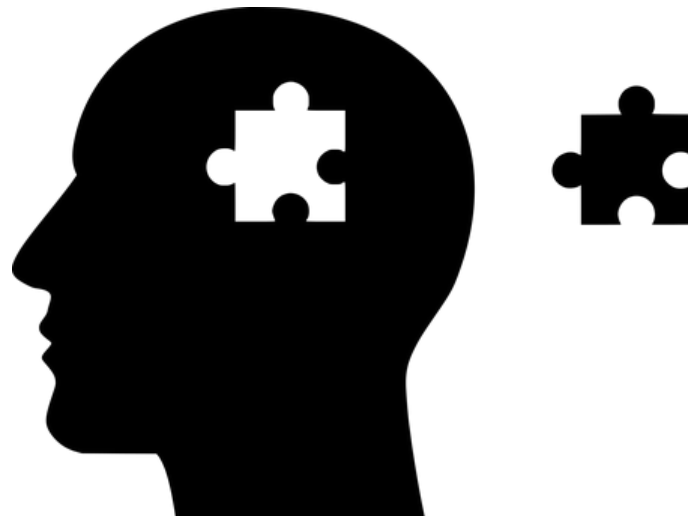
TQM, ISO standards and the A3 thinking process are all based **around the PDCA philosophy**.



PDCA stands at the core of all quality systems

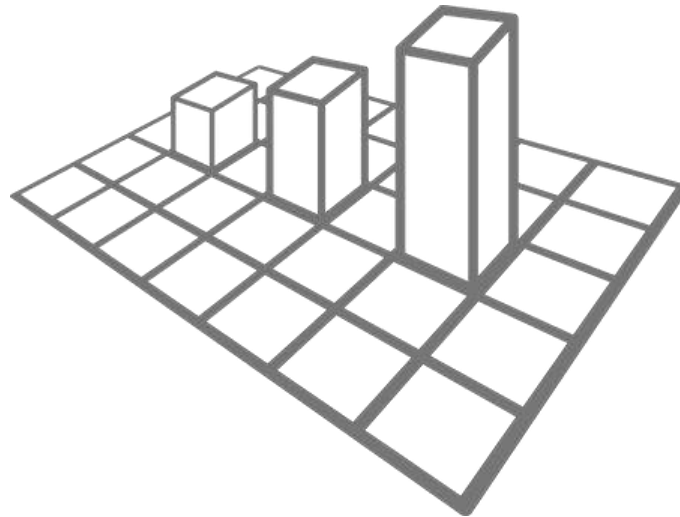
PDCA

Represents the **logical** way of thinking we tend to follow when solving problems or implementing continuous improvement.



PDCA

PDCA provides an effective approach for solving **quality-related issues** such as nonconformities, inefficiencies, and process variability.



The aim is to get closer to whatever goal we have

PDCA

BENEFITS

Helps closing the gap
between planning and
doing

Encourages the methodical
way of problem solving and
implementing solutions

Brings you closer to your
goals as knowledge is
increased from solving
problems, failures the
received feedback

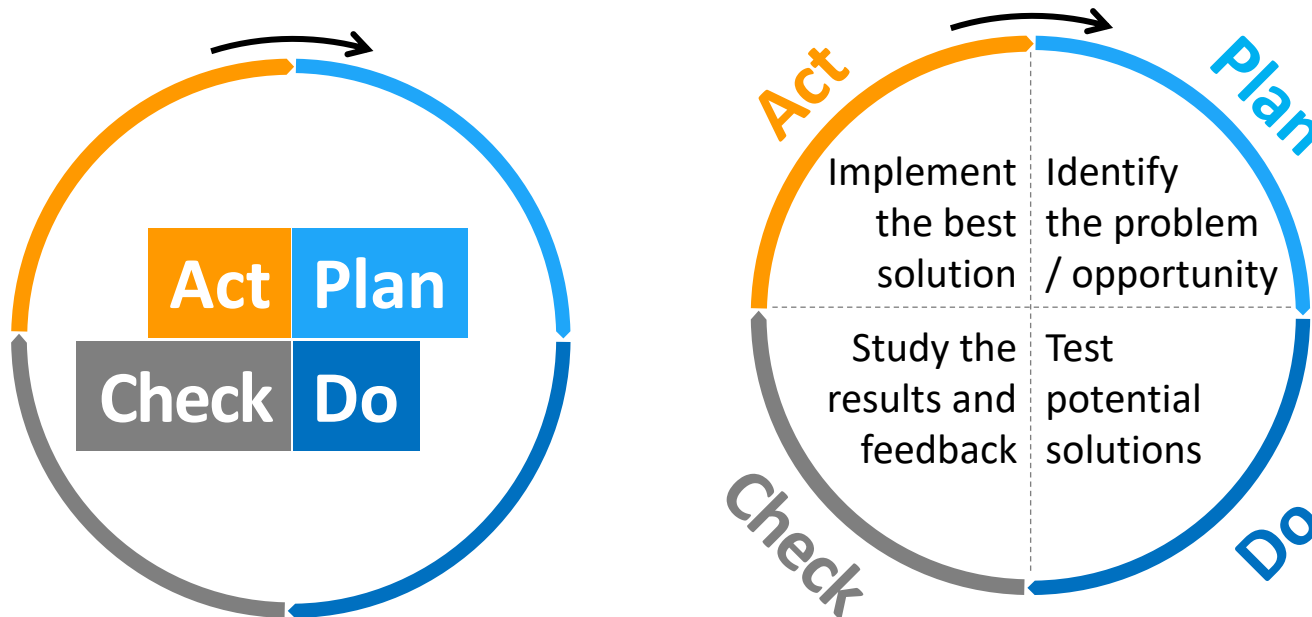
Provides feedback to justify
guesses hypotheses and
ensures incorporating
feedback before starting
full-scale implementation

Improves the critical
thinking skills of your team

Helps your organization to
reach towards a more
integrated system

PDCA

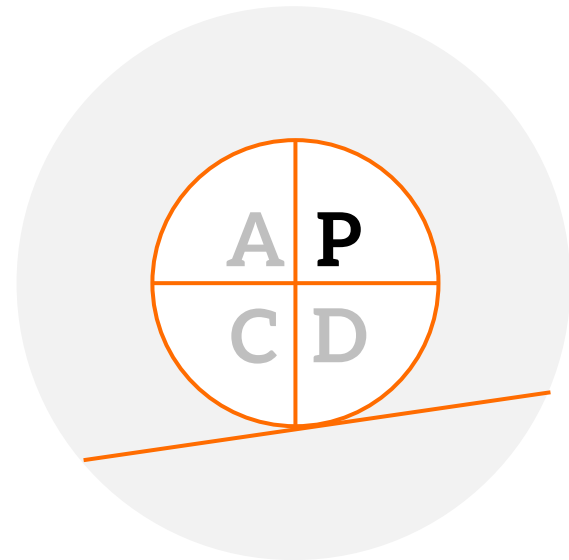
The PDCA cycle can be represented in the form of a diagram.



PDCA

The PDCA cycle begins with a **Planning** phase where the problem and objectives are identified.

In this phase, the team agrees on the problem to be solved or the process to be improved.



PDCA

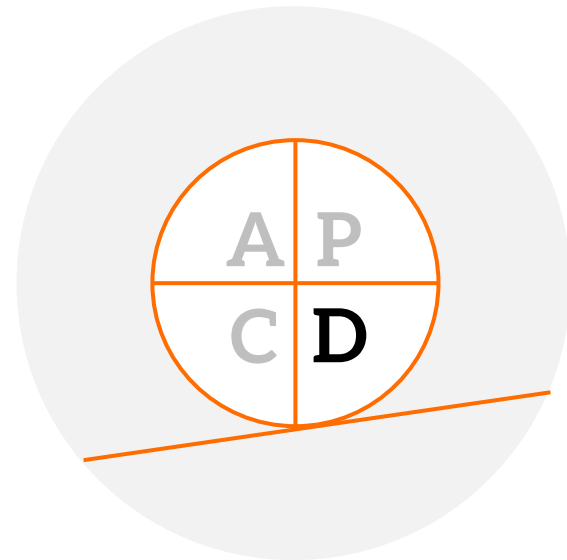
You then need to analyze the current situation, identify solution alternatives, and select and schedule the **most promising solution**.



PDCA

The selected solution is then tested on a small-scale basis in the **Do** phase.

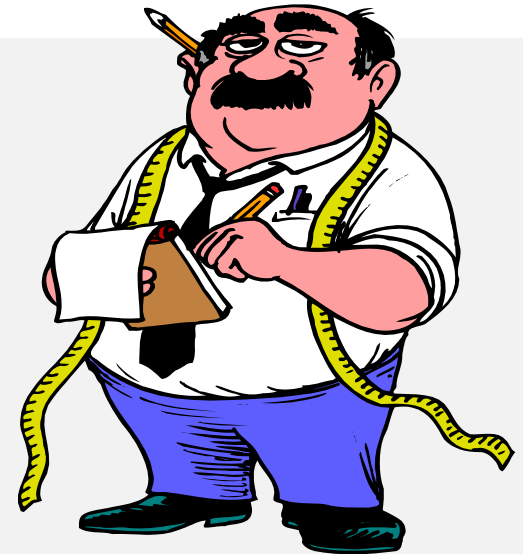
It is important to ensure that the selected solution is appropriately implemented before committing to full implementation.



PDCA

This phase also involves measuring the progress and **collecting data** and feedback for later analysis.

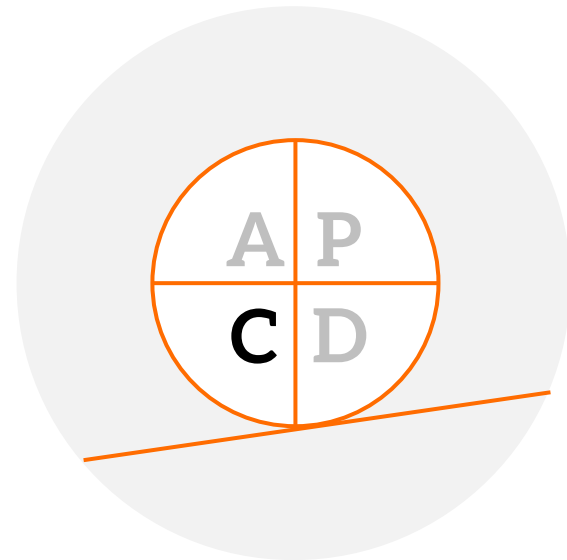
You may need to conduct the pilot test within a department, in a limited geographical area, or within certain demographic group.



PDCA

Check involves analyzing the collected data and feedback and comparing the outcome against the planned objectives.

It allows to evaluate how well the solution has worked and whether further improvement is needed.



PDCA

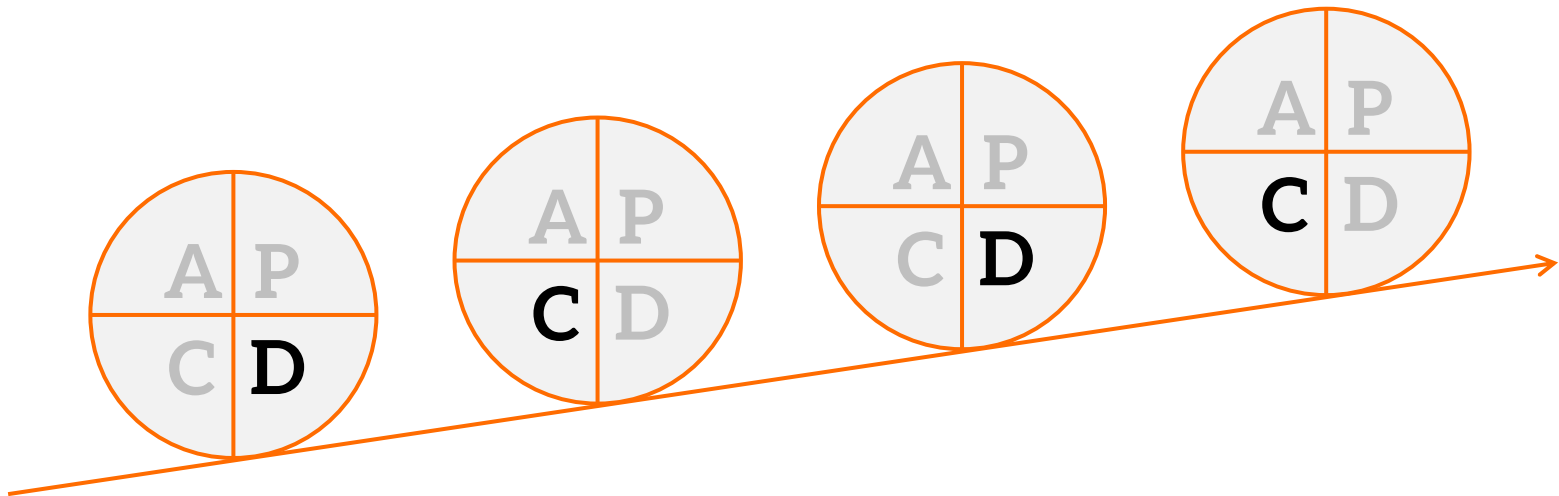
This phase is also concerned with identifying the unexpected issues and gathering and summarizing the **key learnings**.

Current plans can be altered according to the received feedback.



PDCA

Note that you may need to repeat the **Do** and **Check** several times until you achieve desired results.

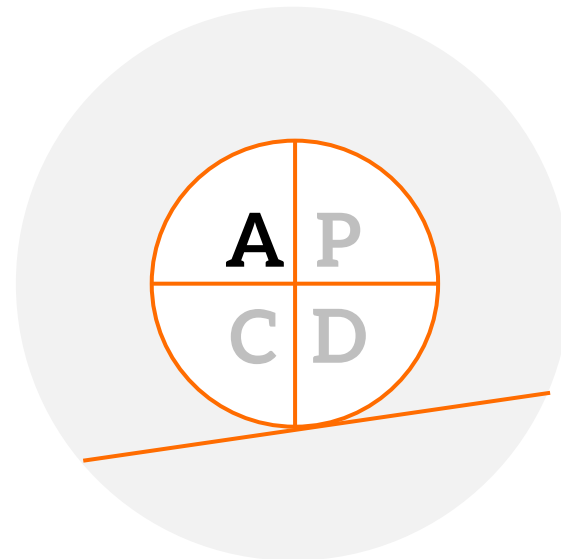


Sometimes you may need to return to the planning phase

PDCA

Act is where you implement the solution in full scale.

It involves taking actions based on what you learned in the Check phase.



PDCA

A plan should be created for the **full implementation** after evaluating the costs and benefits associated.

If the potential benefits are not sufficient, the team should reevaluate the plan and the project may be terminated.



PDCA

Act is also concerned with . . .

Standardizing

Documenting

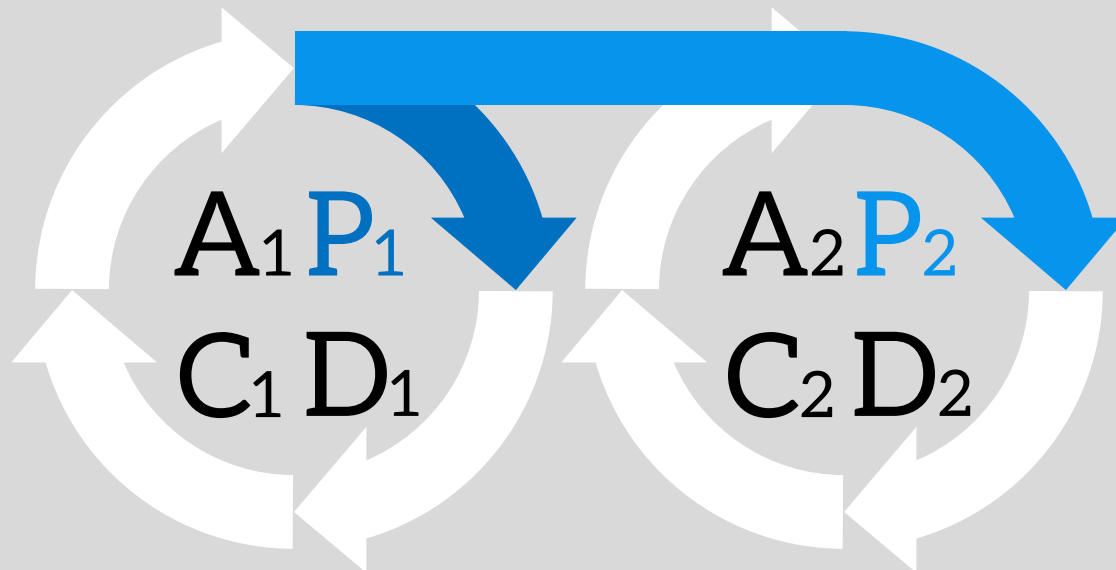
Sustaining the improved process

Integrating it into the organization's system



PDCA

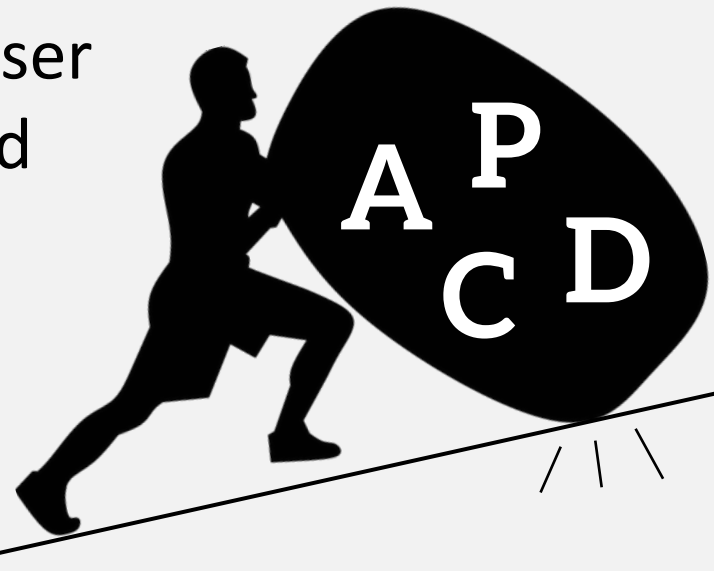
- ▶ The use of the PDCA cycle doesn't necessarily stop once the Act phase is completed.
- ▶ The improved process may become the new baseline, and you may start again at the Plan phase.



PDCA

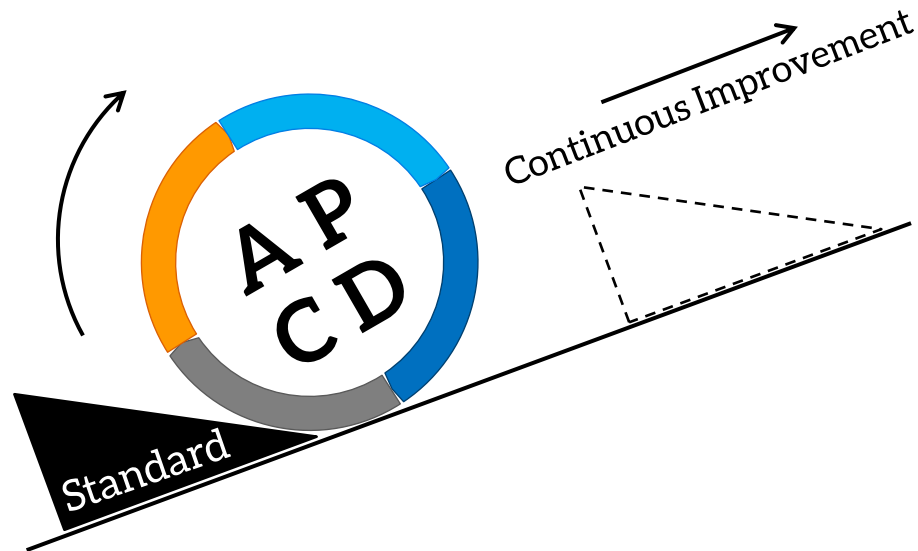
Multiple iterations of the PDCA cycle could be necessary to solve the problem permanently and reach the ultimate future state.

Each cycle will bring you closer to your goals and will extend your knowledge further.



PDCA

The PDCA cycle can be **repeatedly applied** in a process of continuous improvement where there is no end to it.



Repeating the PDCA cycle frequently can be helpful in implementing Kaizen and other continuous improvement initiatives

PDCA

When the first iteration of the PDCA cycle ends, **lessons** should be gathered for the next cycle.

Our knowledge and skills will grow as we continue to work on the project.



PDCA

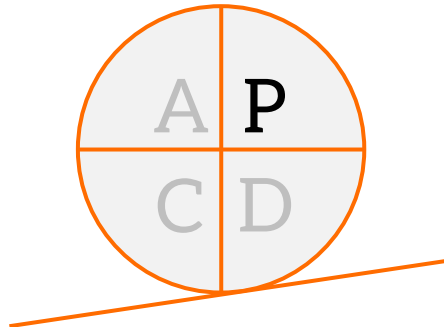
Data should be collected continuously to measure and evaluate the **performance** on a continual basis.



PDCA

How to Implement a PDCA Cycle?

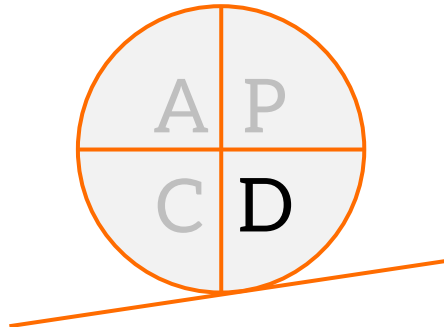
1. With your team, identify and understand the problem (consider using the 5W2H approach).
2. Brainstorm and screen solution ideas.
3. Develop an implementation plan along with responsibilities, milestones, review periods and performance indicators.



PDCA

How to Implement a PDCA Cycle?

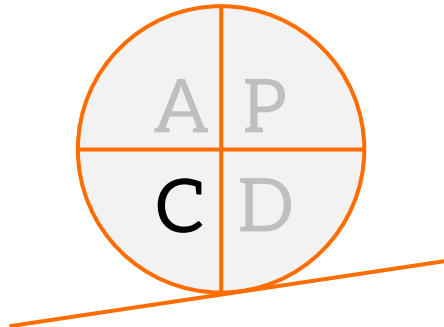
4. Put the implementation plan into practice.
5. Run the pilot solution (produce, serve, purchase, survey, train, etc.).
6. Gather data and measure performance outcomes.



PDCA

How to Implement a PDCA Cycle?

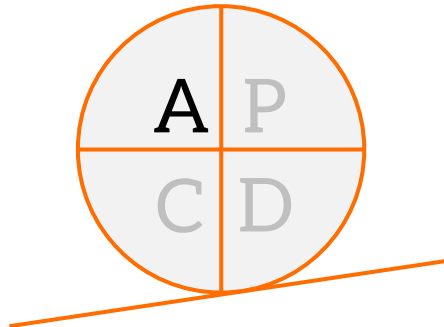
7. Review the obtained results and collected data.
8. Analyze and compare the results against the initial state.
9. Assess whether the solution solves the problem and discuss if further improvement is needed.



PDCA

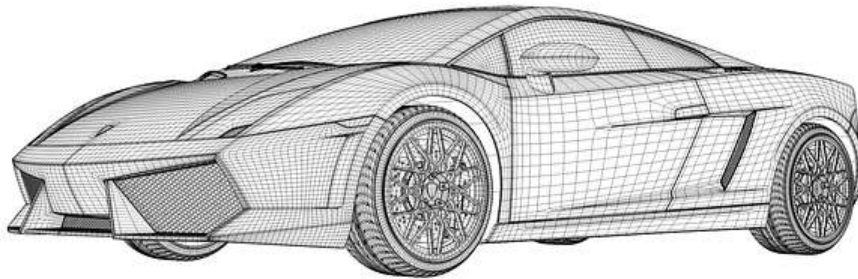
How to Implement a PDCA Cycle?

10. Use what you learned to plan your improvement.
11. Implement the solution in full scale.
12. Train employees on the new process.



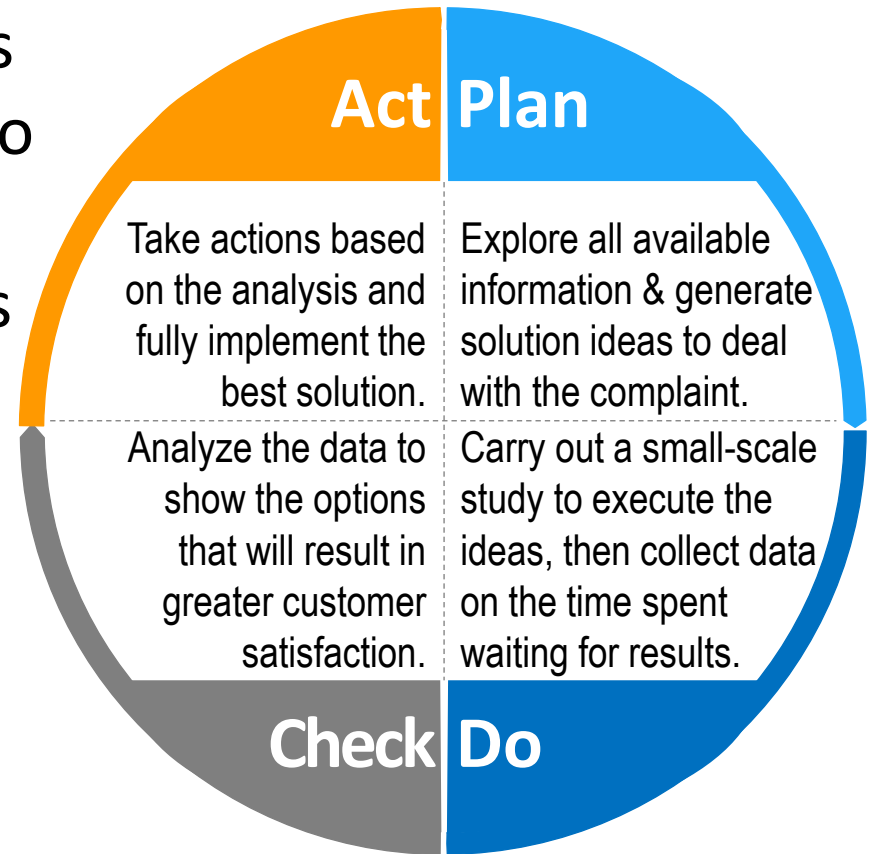
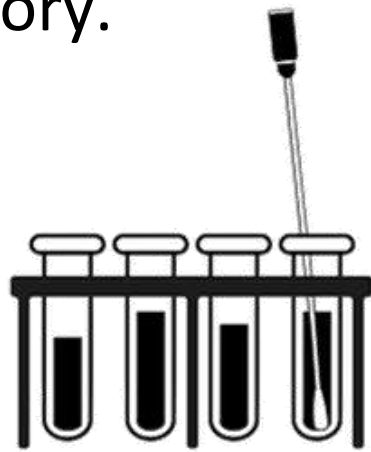
PDCA

Example – A common example often used to illustrate the PDCA cycle is when a team is initiating a new product development.



PDCA

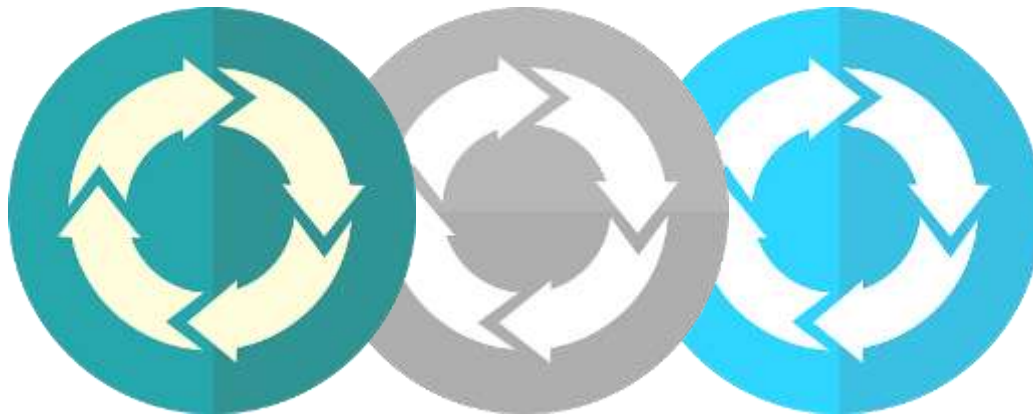
Example - Another example is when a lab team is planning to solve a customer's complaint about the delayed test results at a laboratory.



PDCA

Further Information

The PDCA cycle is often referred to as the **Shewhart Cycle** or **Deming Wheel** as it is defined by Shewhart and modified by Deming.

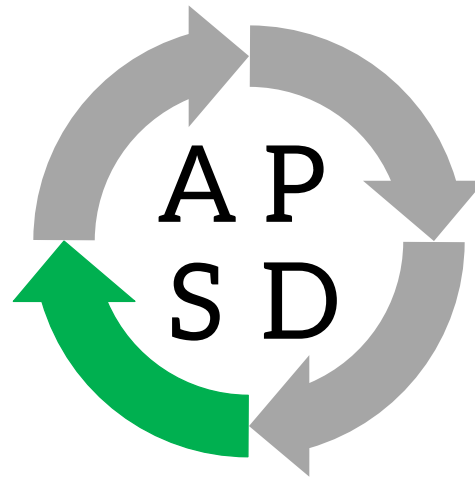


Shewhart and Deming are recognized as pioneers in the quality management movement

PDCA

Further Information

In 1990, Deming introduced the **PDSA cycle** which is a modified version of the PDCA cycle.



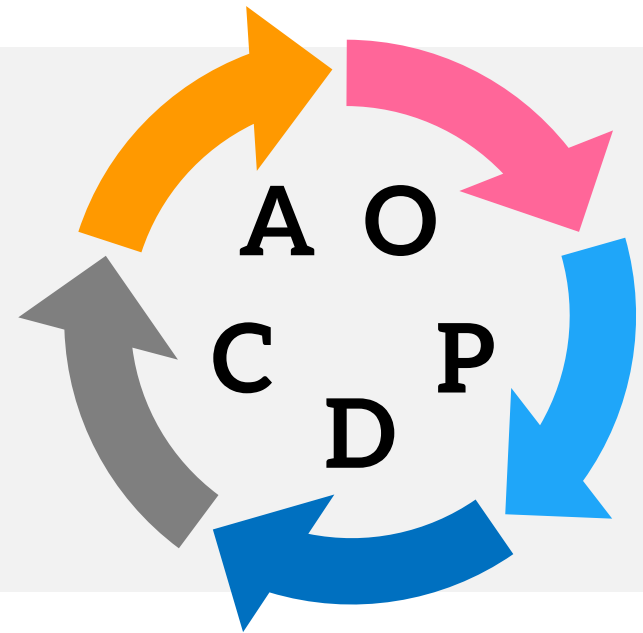
It is believed that data analysis is important for any improvement effort, and “Checking” does not really imply studying and analyzing the data

PDCA

Further Information

OPDCA is another version of PDCA where the 'O' stands for **Observe**.

The Observe is added at the front of the cycle to emphasize the need to observe before creating any plan.



PDCA

Further Information

PDCA relies on trial and error, however, it keeps improving until it achieves excellence.

Going through the PDCA cycle is not straightforward and can be slow. PDCA is not the appropriate approach when dealing with urgent issues.



PDCA

Further Information

PDCA can also be used at the personal level to improve your own performance:

- ▶ (P) Identify what is holding you from reaching your true potential.
- ▶ (D) Try different ways to achieve the results you want to obtain.
- ▶ (C) Review your progress and adjust your behavior accordingly.
- ▶ (A) Implement what is working regularly and change what isn't.



PDCA

Further Information – Useful Tools

PLAN	process mapping, brainstorming, waste analysis, prioritization matrix, improvement roadmaps, gap analysis, and force field analysis.
DO	Gantt charts, dashboards, data collection methods, sampling, observation, check sheets, and control charts.
CHECK	graphical analysis, statistical analysis, fishbone diagram, Pareto analysis, root cause analysis, and decision-making techniques.
ACT	process mapping, Gantt charts, dashboards, control charts, control plans, visual management, and standard work.

PDCA

Further Information – PDCA Board

	PDCA	What?	Who?	When?	Status
1					
2					
3					
4					
5					
6					

One of the simplest tools to plan and monitor the progress of work



PDCA

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