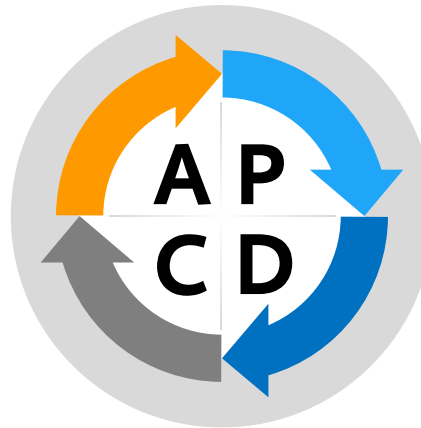# Continuous Improvement Toolkit

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 . . .
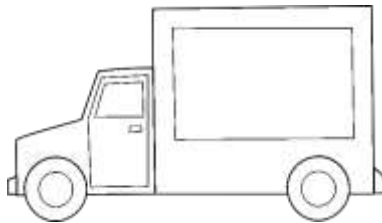
Plan **Do** **Check** **Act**

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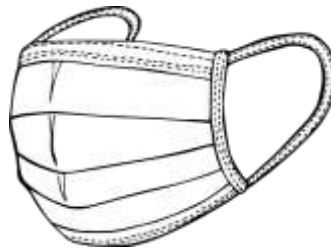
PDCA

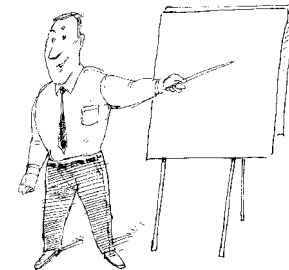The PDCA cycle can be **applied** in most kinds of projects and improvement activities . . .

| 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
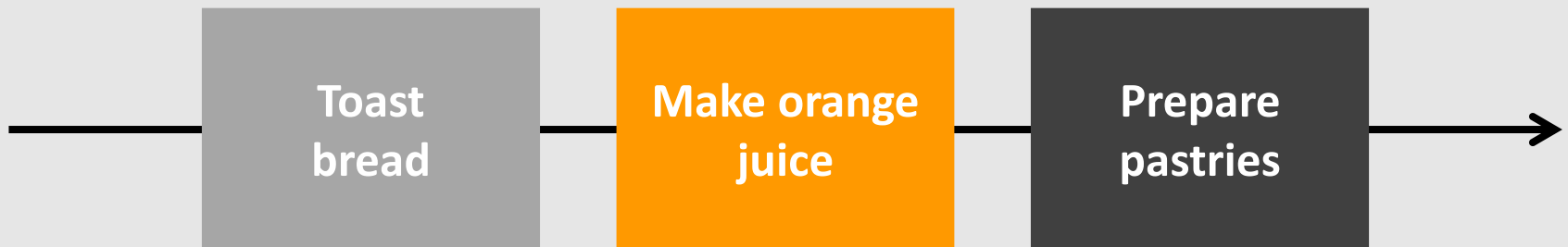
Collect and **analyze** customer data and feedback

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

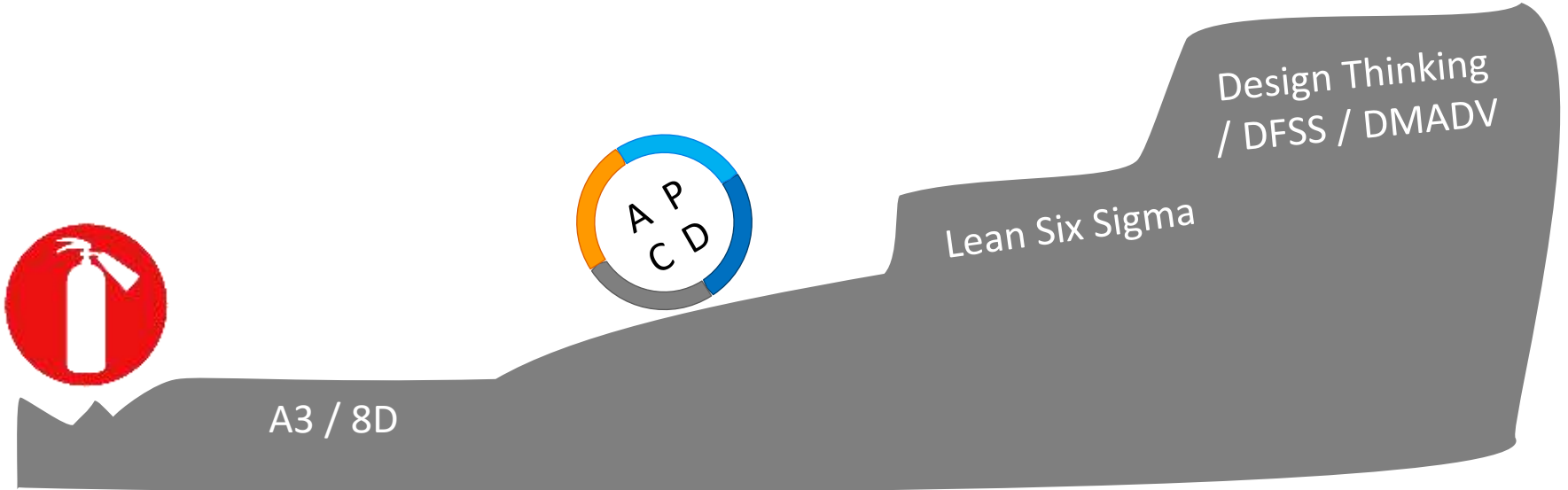What we have just listed is a PDCA cycle

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**.

A3 / 8D

Lean Six Sigma

Design Thinking / DFSS / DMADV

A P
C D

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**.

TQM

ISO

A3

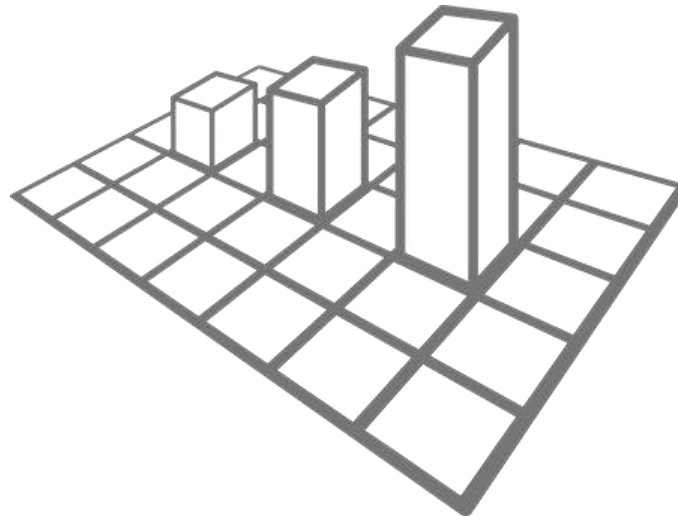PDCA stands at the core of all quality systems

PDCA

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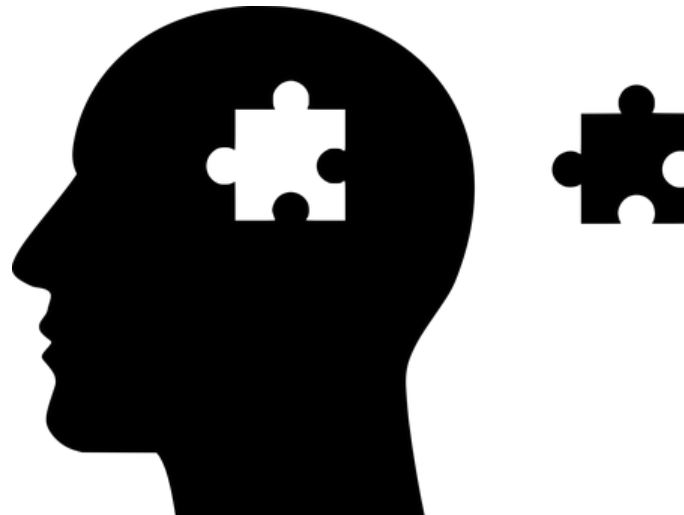
PDCA

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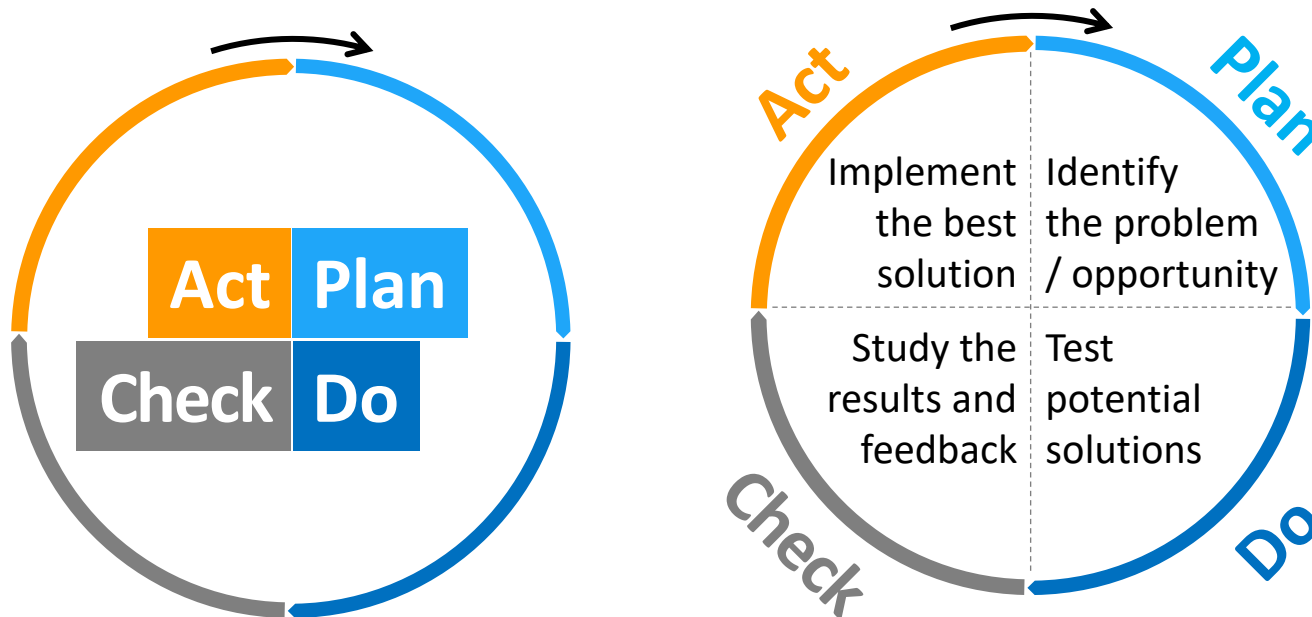
Provides feedback to justify guesses hypotheses and ensures incorporating feedback before starting full-scale implementation

Improves the critical thinking skills of your team

Helps your organization to reach towards a more integrated system
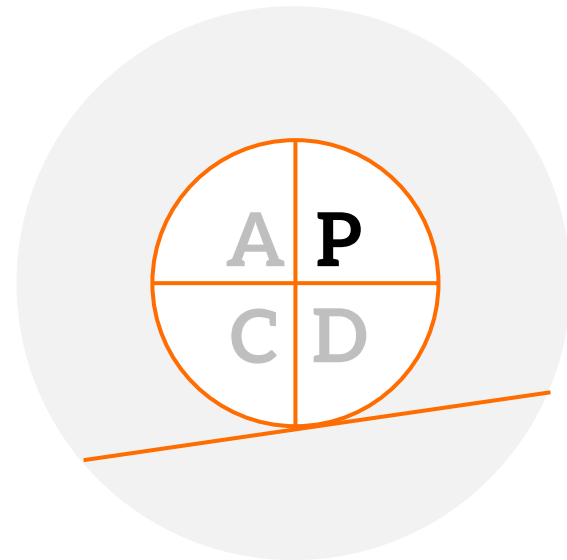
PDCA

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.
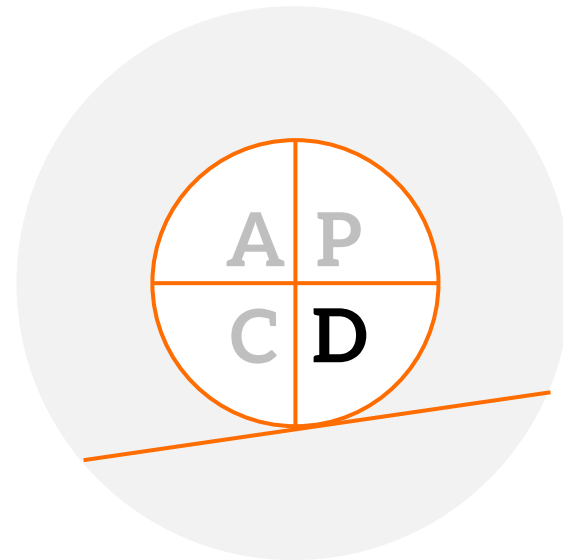
PDCA

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.
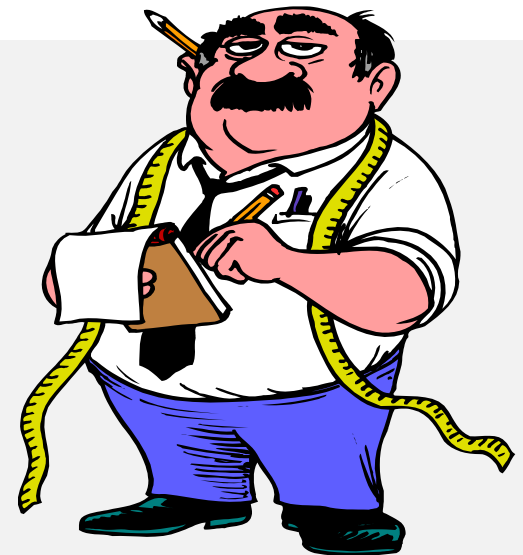
PDCA

This phase also involves measuring the progress and **collecting data** and feedback for later analysis.
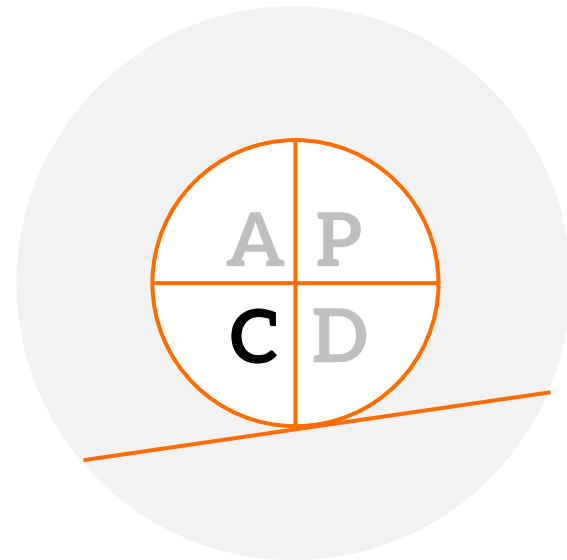
You may need to conduct the pilot test within a department, in a limited geographical area, or within certain demographic group.

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.
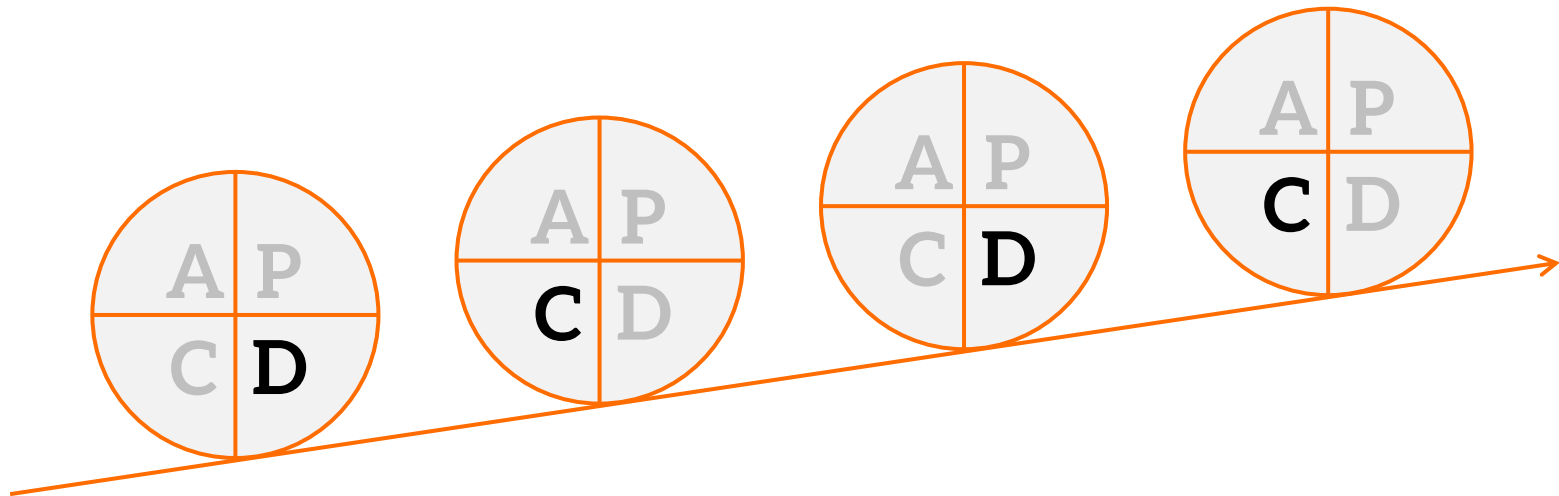
PDCA

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.
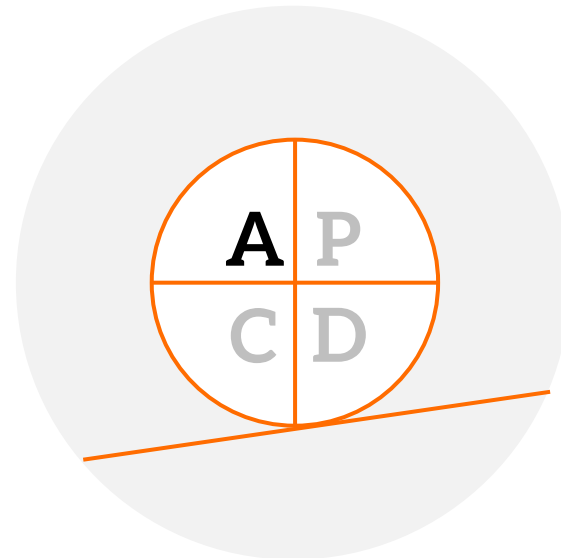

Sometimes you may need to return to the planning phase

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

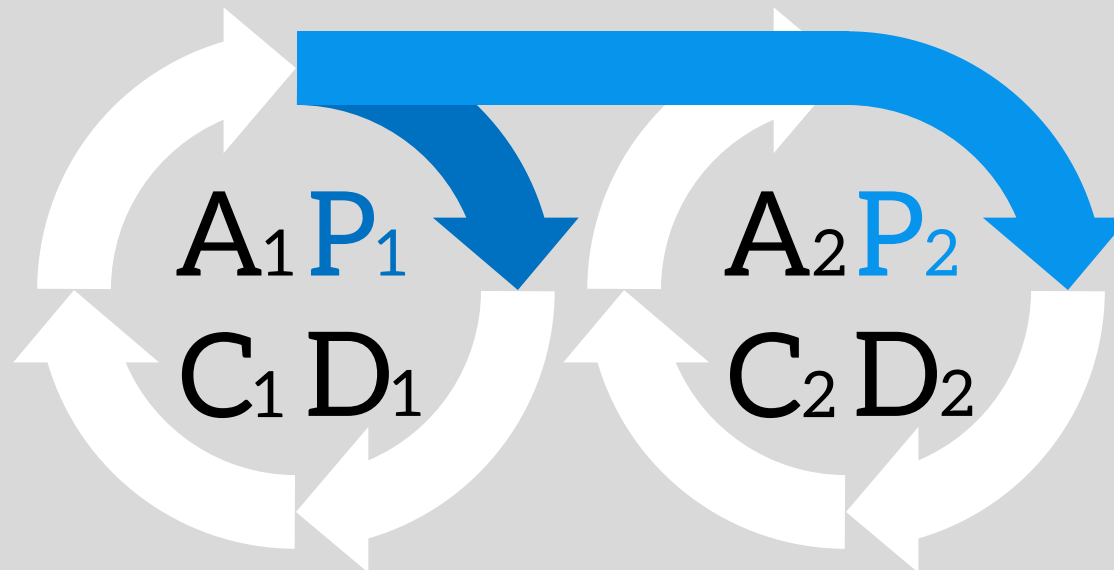Act is also concerned with . . .

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.

$$A_1 \quad P_1$$
$$C_1 \quad D_1$$

$$A_2 \quad P_2$$
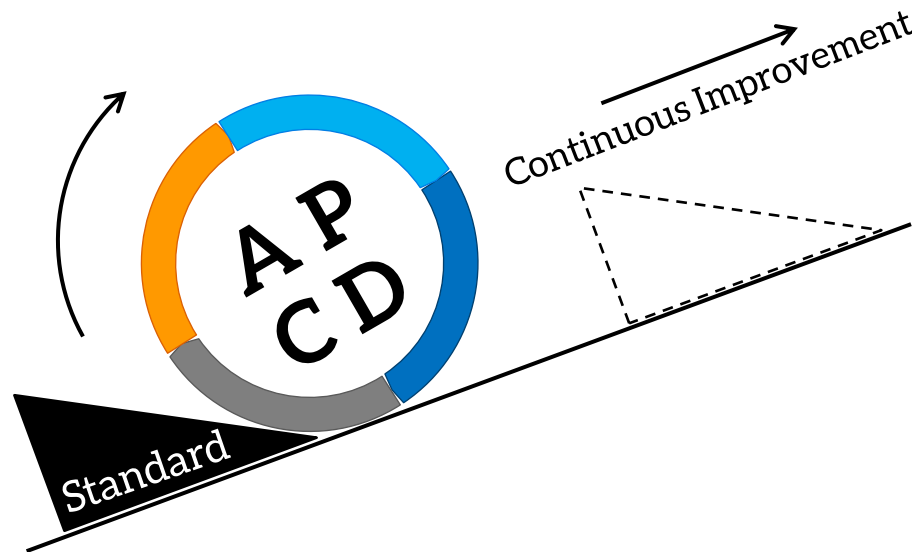$$C_2 \quad D_2$$

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.
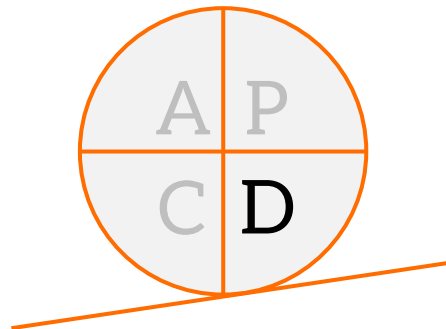
PDCA

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.
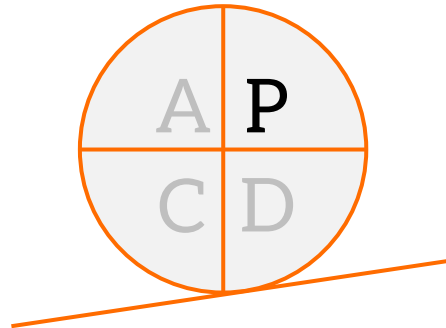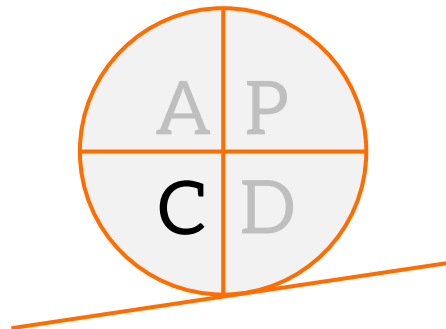
PDCA

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.

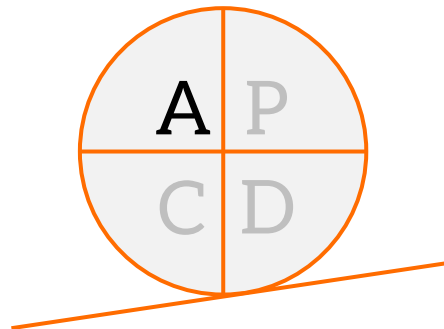# PDCA

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.
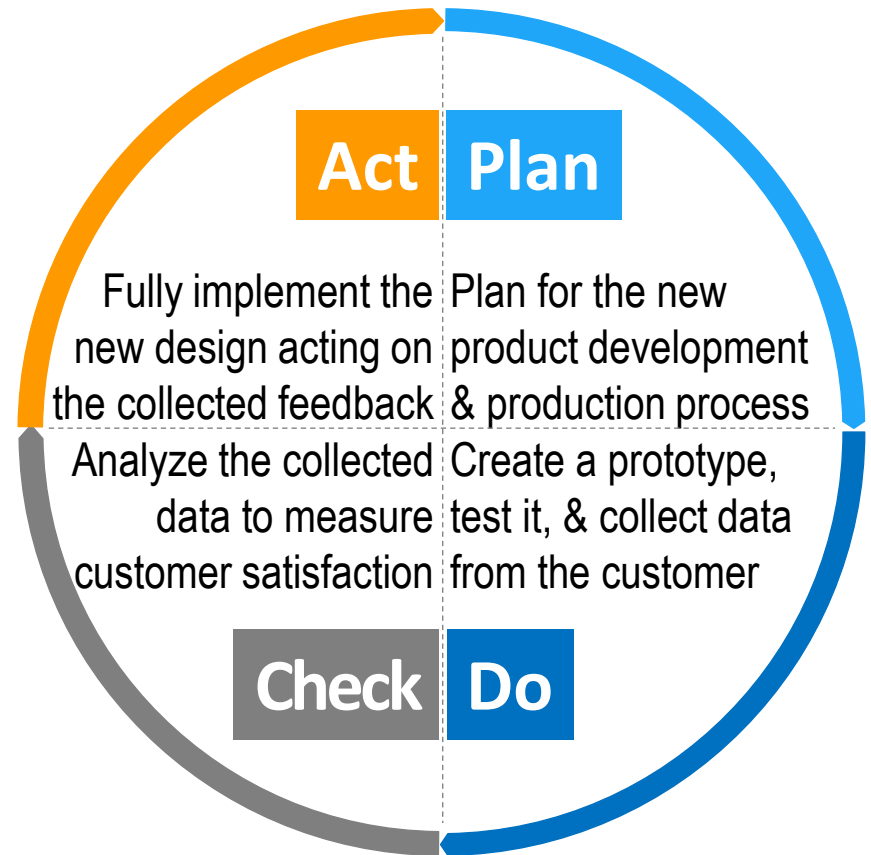
PDCA

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.

Act — Fully implement the new design acting on the collected feedback

Plan — Plan for the new product development & production process

Check — Analyze the collected data to measure customer satisfaction

Do — Create a prototype, test it, & collect data from the customer
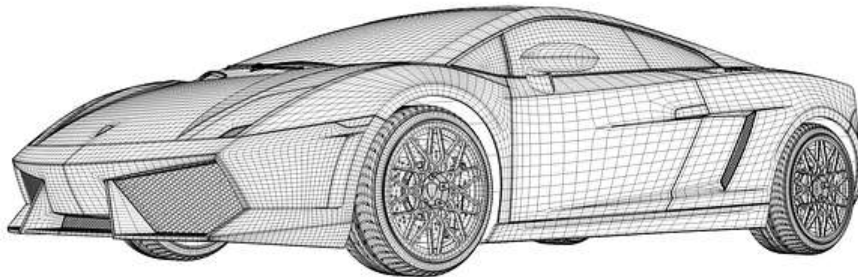
PDCA

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

Act — Take actions based on the analysis and fully implement the best solution.

Plan — Explore all available information & generate solution ideas to deal with the complaint.

Check — Analyze the data to show the options that will result in greater customer satisfaction.

Do — Carry out a small-scale study to execute the ideas, then collect data on the time spent waiting for results.

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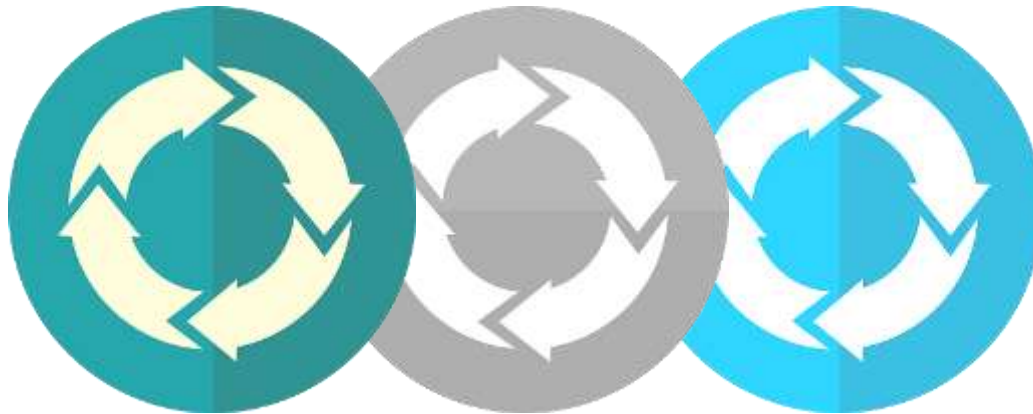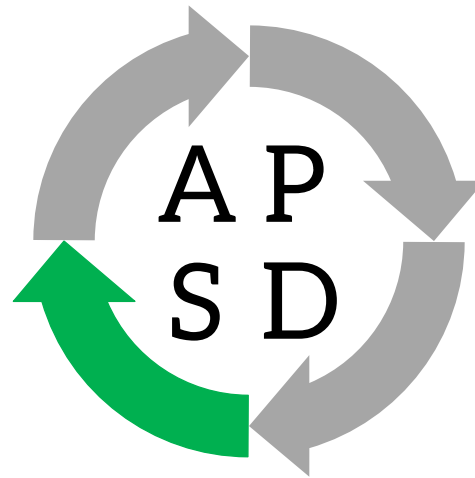
Shewhart and Deming are recognized as pioneers in the quality management movement

PDCA

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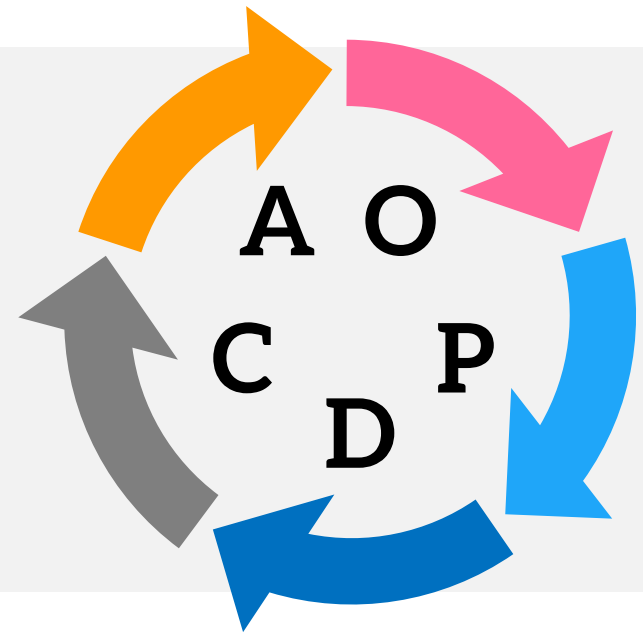

It is believed that data analysis is important for any improvement effort, and "Checking" does not really imply studying and analyzing the data

PDCA

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

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

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

	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

Made with ❤ by

CITOOLKIT

The Continuous Improvement Toolkit
www.citoolkit.com