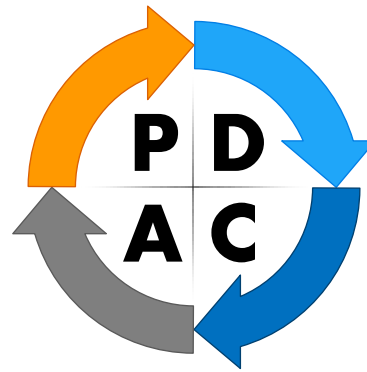


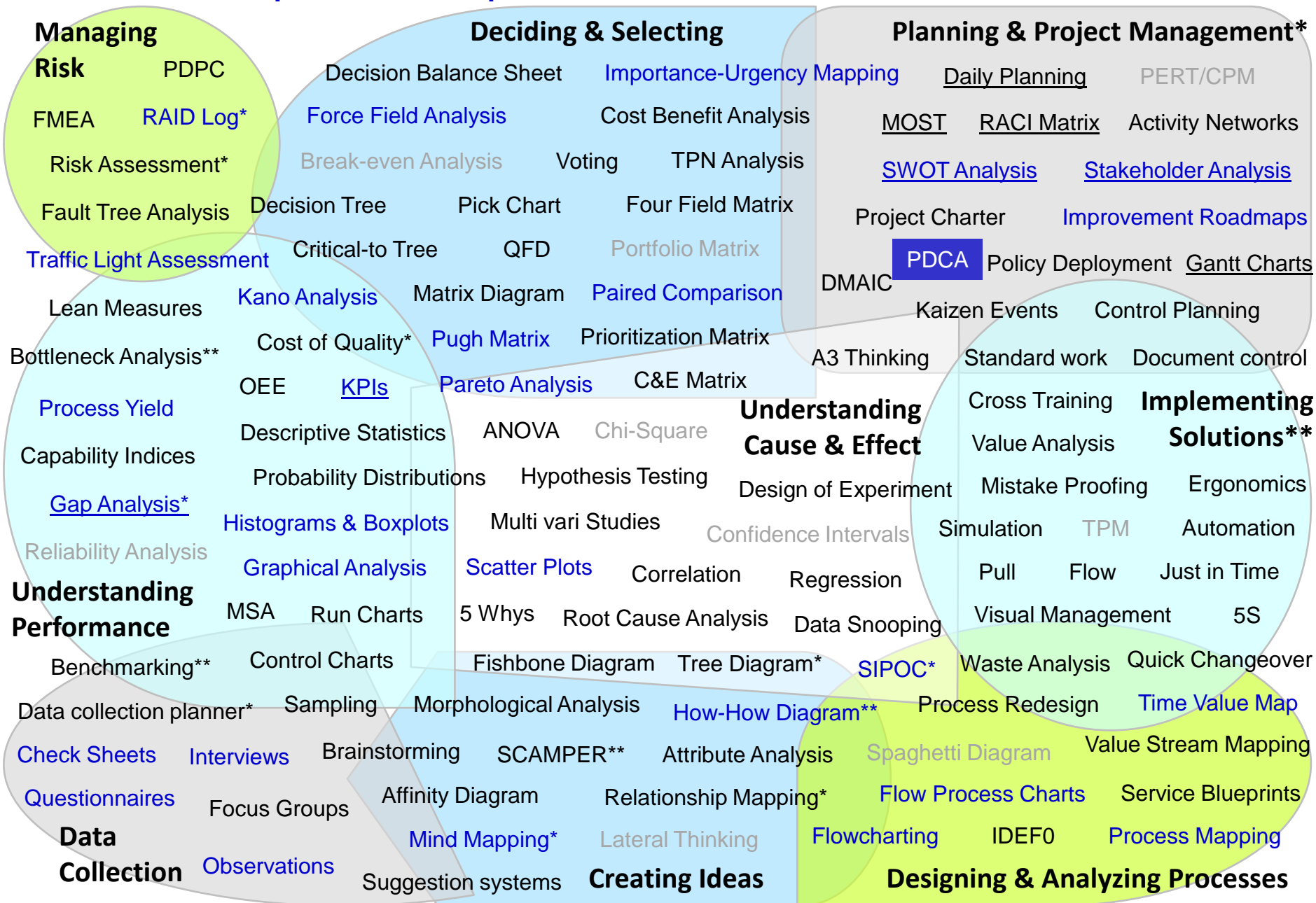
Continuous Improvement Toolkit

PDCA

(Plan – Do – Check - Act)

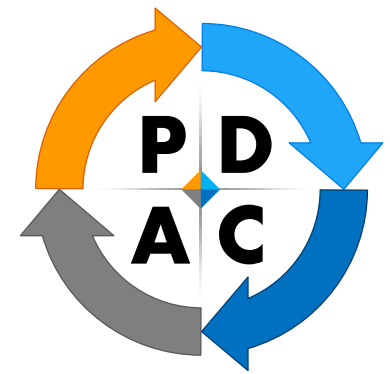


The Continuous Improvement Map



- PDCA

- ❑ A framework for problem solving, continuous improvement and change.
- ❑ Widely recognized as the basis of continually improving the quality of processes, products, and services.
- ❑ An easy to remember four logical sequence steps:
 - **P**lan – **D**o – **C**heck – **A**ct.
- ❑ Provides a simple and structured approach for solving quality-related problems.
- ❑ Multiple iterations of the PDCA cycle may be necessary to solve the problem permanently and reach the ultimate goal state.



- PDCA

- ❑ Used to verify the feasibility of a proposed idea whether it is an incremental or a breakthrough improvement.
- ❑ **Often used when:**
 - Intending to make minor changes to a process.
 - The solution to the problem is known.



- PDCA

Benefits:

- ❑ Encourages the methodical way of problem solving and implementing solutions.
- ❑ Ensures that you plan, test and incorporate feedback before you start full-scale implementation. This brings you closer to your goals as knowledge is increased:
 - From solving problems.
 - From failures.
 - From the feedback received.
- ❑ Improves the critical thinking skills of your team.
- ❑ Helps to reach towards a more integrated system.



- PDCA

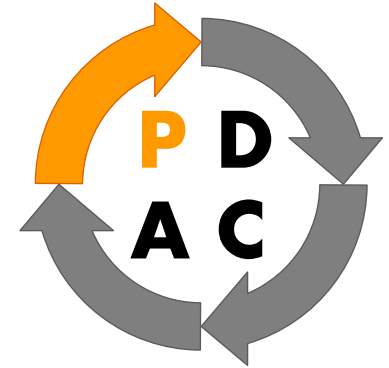
- ❑ Repeating the PDCA cycle frequently will help implementing **Kaizen** and other continuous improvement initiatives.
- ❑ **The following are based around the PDCA philosophy:**
 - TQM.
 - The ISO standards.
 - The A3 thinking process.



- PDCA

Plan:

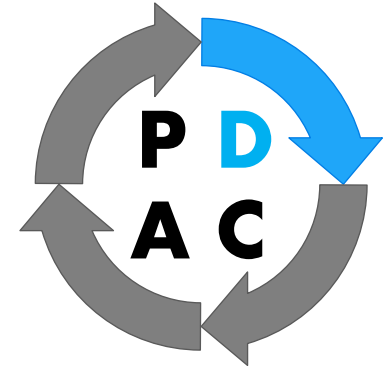
- ❑ The team selects the problem to be solved (or the process to be improved).
- ❑ The problem and objectives are clearly identified.
- ❑ The current situation is analyzed.
- ❑ Solution alternatives are identified, selected and scheduled.



- PDCA

Do:

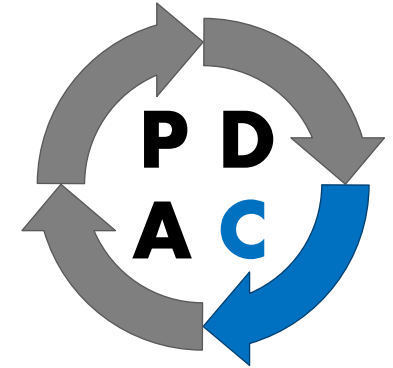
- ❑ The solution is tested on a small scale basis.
- ❑ It involves collecting data for later analysis.
- ❑ It also involve measuring progress.
- ❑ It ensures the solution is appropriately tested and benefits are validated before committing to full implementation.



- PDCA

Check:

- ❑ Involves analyzing the collected data and comparing the actual results against the planned objectives.
- ❑ Allows evaluating how well the solution worked.
- ❑ Allows discussing whether further improvements are possible.
- ❑ Concerned with identifying the unexpected issues, their causes, and gathering and summarizing the key learnings.

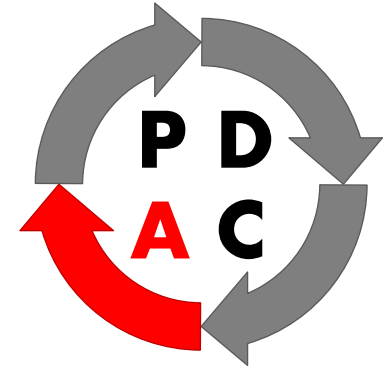


You may need to repeat the **Do** and **Check** a number of times until you get the optimum results

- PDCA

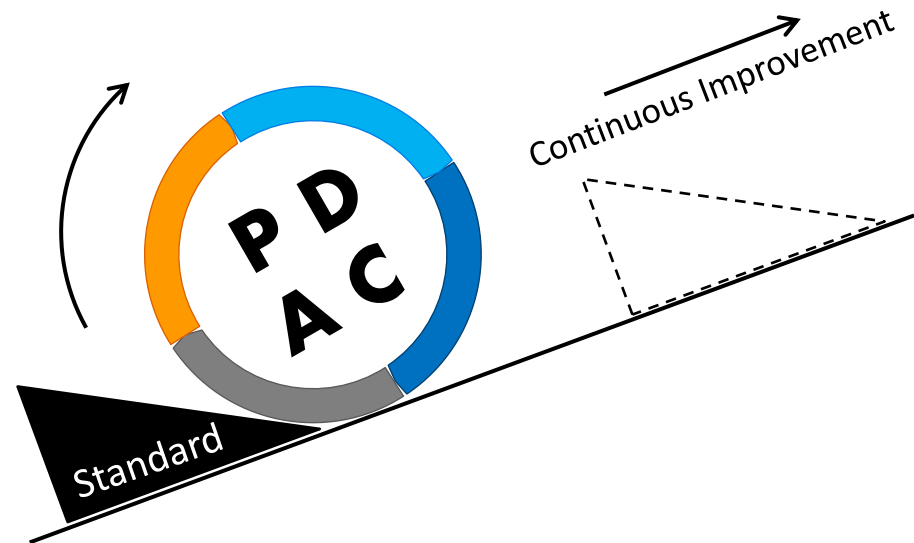
Act:

- ❑ Involves acting on the feedback and lessons learned and implementing the solution fully.
- ❑ **It is also concerned with:**
 - Standardizing.
 - Documenting.
 - Sustaining the improved process.
 - Integrating it into the organization's system.



- PDCA

- ❑ You may identify the next target and start again at the plan phase.
- ❑ The PDCA cycle can be repeatedly applied in a process of continuous improvement where there is no end to it.
- ❑ Each cycle will bring you closer to your goals and will extend your knowledge further.

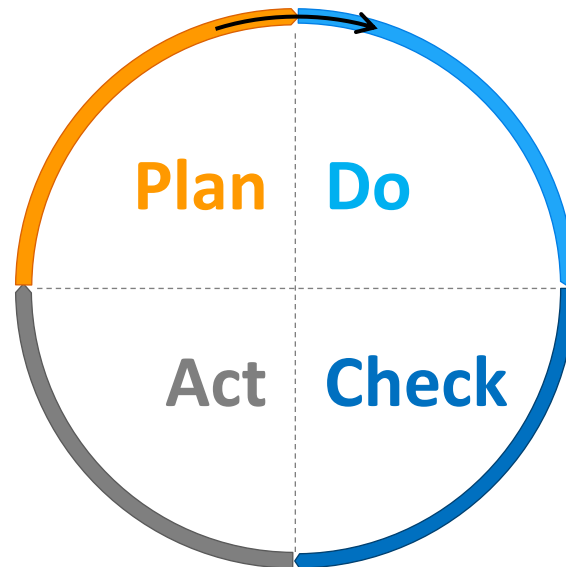


- PDCA

Examples:

□ The PDCA cycle can be used in many different situations:

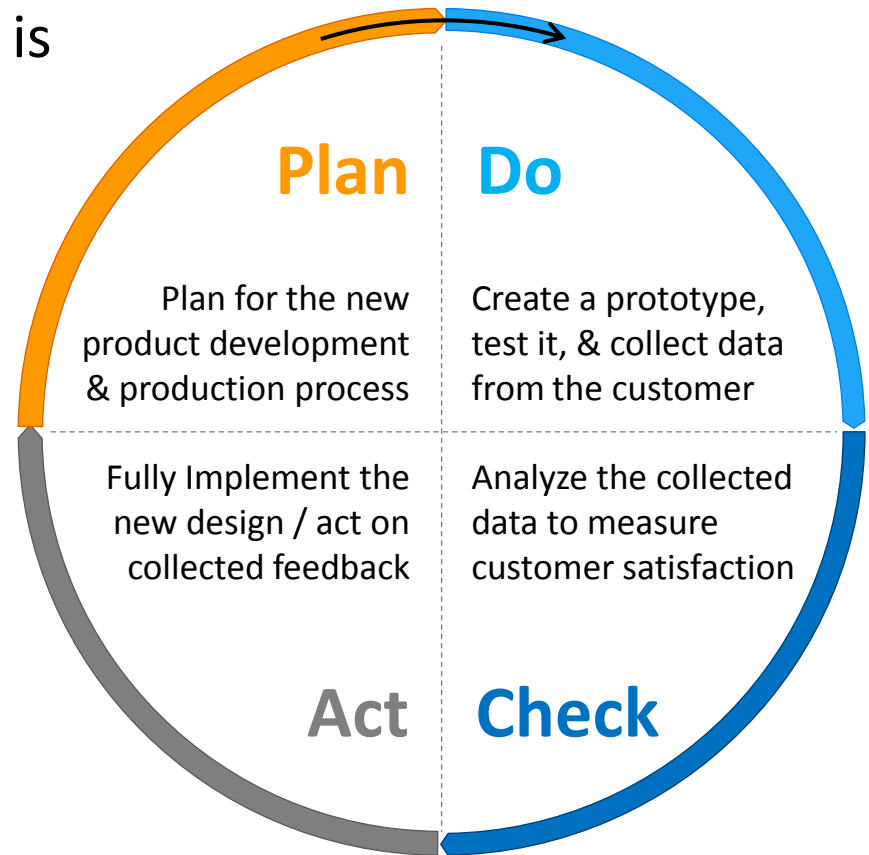
- When planning to change the supplier of a product or service.
- When trying to implement a new safety program within a facility.
- When planning to conduct a training program to improve certain skills.



- PDCA

Example:

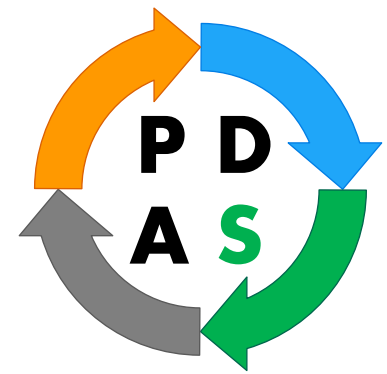
- A common example often used is when a design team is planning for a new product development.



- 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.
- ❑ In 1990, Deming introduced the **PDSA cycle** (a modified version of the PDCA cycle).
- ❑ He believed that data analysis is an essential part of any improvement effort, and checking does not necessary imply an in-depth study.



- PDCA

Further Information:

- ❑ **OPDCA** is another version of PDCA where “O” stands for observation.
- ❑ PDCA relies on trial and error, however, it keeps improving until it achieves excellence.
- ❑ Maintain documentation for these projects.



- PDCA

Further Information:

Phase	Useful Tools
Plan	Gap analysis, fault tree analysis, waste analysis, brainstorming, process mapping, WBS, etc.
Do	Gantt charts, on-the-job training, conflict resolution, data collection methods, sampling, control charts, etc.
Check	Graphical analysis, cause and effect analysis, statistics, Pareto analysis, group decision-making technique, etc.
Act	Gantt charts, check sheets, control charting, control planning, standard work, conflict resolution, etc.