

PDCA Cycle

Introduction

Proposed by Walter Shewhart and later developed by William Deming, the PDCA cycle has become a widespread framework for continuous improvements in management, services, manufacturing, and other areas. The Plan-Do-Check-Act (PDCA) cycle is a model for carrying out change. It is an essential part of the lean manufacturing philosophy. It is a very simple four-stage method that enables members of a team to avoid recurring mistakes thereby improving processes. PDCA cycle is an iterative process for continually improving products, people, and services. The model includes solutions testing, analyzing results, and improving the process.

Definition

The PDCA cycle is a continuous loop of planning, doing, checking (or studying), and acting. It provides a simple and effective approach solving problems and managing change. The model is useful for testing improvement measures on a small scale before updating/standardizing procedures and working practices.

When to Use it

When there are multiple issues/complaints of similar kind arising from product or service at regular intervals of time.



Details

Plan:

At this stage, you literally plan what needs to be done. Planning can take a major part of your team's efforts. It will usually consist of smaller steps so that you can build a proper plan with fewer possibilities of failure.

Address the following concerns:

What is the core problem we need to solve?

What resources do we need?

What resources do we have?

What is the best solution for fixing the problem with the available resources?

In what conditions will the plan be considered successful? What are the goals?

Break these questions into smaller steps so that you can build a proper plan with fewer possibilities of failure.

Do:

After you have agreed on the plan, it is time to act. At this stage, you will apply everything that has been considered during the previous stage. In this stage unpredicted problems can occur. To avoid this always try to incorporate your plan on a small scale (pilot project) and in a controlled environment. In this stage make sure every team member knows their respective responsibilities and once set standardize the plan.

Check:

This is the most important stage. If you want to clarify/alter your plan, avoid recurring mistakes, and apply continuous improvement successfully, you need to pay enough attention to the CHECK phase. Here, you need to audit your plan's execution and see if your initial plan worked. Your team should be able to identify problematic parts of the current process in this stage to eliminate them in the future. If something went wrong during the process, you need to analyze it and find the root cause of the problems. If problems exist return to Step 1. If it was perfect, advance to Step 4.

Act:

This is the last step. You have now already developed, applied, and checked your plan. Now, you need to act. If everything seemed to perfect and your team managed to achieve the original goals, then you can proceed and apply your initial plan. Then this PDCA model will become your new baseline till any further unforeseen problem occurs. However, every time you repeat a standardized plan, remind your team to go through all steps again and try to improve carefully.

Keep in mind that the PDCA cycle requires a certain amount of time and cannot be used for solving urgent issues. It is a loop and not a process with a beginning and end.

Example:

Suppose that you own a Restaurant specialized in different kinds of Italian pasta. You are doing relatively well but recently; your pasta is not as appreciated as in the past. You think people are a little "tired" of your recipe. You want to discover a new recipe that will drive your customers crazy. Since you are not a very methodical person, you decide to use the PDCA Model:

Plan

Your Goal is to find a new successful Recipe for your pasta.

To do so:

- You'll start offering 5 alternatives to your clients.
- Every week, you will keep the top 3 and introduce 2 new ones.

You'll use an iterative process to find which ingredients and cooking processes your customers like best.

Do

The first week, you prepare the 5 best recipes you know, listing all the ingredients that each one has and what cooking processes you followed.

- Once you have feedback, you'll make different modifications.

Check

At the end of every week, you check the most successful recipes.

- The ingredients they have (spices, amount of salt, rib supplier, etc.)
- The cooking process used (how much temperature you cooked at, how much time you employed, etc.)

Your goal in this step is to see if your recipes are going in the right direction.

Act

Once you have checked the best recipes, you analyze and decide what new recipes you will use next week.

Result:

- After 3 months of research, you end up with a successful recipe that has been undefeated for 4 consecutive weeks.

In Summary

The PDCA cycle has four stages:

1. Plan — determine goals for a process and needed changes to achieve them.
2. Do — implement the changes.

3. Check — evaluate the results in terms of performance
4. Act — standardize and stabilize the change or begin the cycle again, depending on the results

