

Solving problems with the 8D method



Version : August 2023



Table des matières

1	1 W	'hat is the 8D method?	3
2	Ben	efits of the approach	3
	2.0	0D - Plan	4
	2.1	1D - Building the workgroup	4
	2.2	2D - Defining the problem	5
	2.3	3D - Implement a temporary corrective solution	5
	2.4	4D - Identify the root causes of the problem	5
	2.5	5D - Define permanent corrective actions	6
	2.6	6D - Implement and validate ongoing corrective actions	6
	2.7	7D - Take action to prevent the problem from recurring	7
	2.8	8D - Congratulate the working group	7



Solving problems with the 8D method

How do you go about solving a problem? The 8D method offers a structured process for solving all types of problem, from the simplest to the most complex. Explanation of the 8 steps to follow.

1 1 What is the 8D method?

It's a comprehensive approach to solving all kinds of questions and helping people make decisions. The acronym 8D (Eight Disciplines) represents the 8 steps to be taken. This method was developed by Ford Motor Company in the 1980s. It is widely used in quality management in general and continuous improvement (Kaizen) in particular.

A 9th step was added later to emphasize the importance of action planning. Named D0, it is placed at the very beginning of the process.

- (D0 Planning)
- D1 Set up work group.
- D2 Define problem.
- D3 Implement provisional corrective solution.
- D4 Identify root causes.
- D5 Qualify solutions.
- D6 Define and implement corrective actions.
- D7 Implement actions to prevent recurrence.
- D8 Congratulate the working group.

2 Benefits of the approach

It is based on a rigorous sequence of 8 steps to examine all facets of a problem, with the aim of finding a relevant and lasting solution. This framework is perfectly suited to a collaborative approach. Members of a working group pool their skills and experience to explore every possible hypothesis.

Page 3 sur 7





2.0 OD - Plan

This first stage consists of gathering all available information about the problem and defining the means to solve it: choosing the objectives, defining the means and planning the various stages of the process.

2.1 1D - Building the workgroup

The composition of the team that will work on the problem is important. It must be multi-disciplinary, representing sufficiently different points of view and angles of attack to provide a richness of analysis. The origins of a situation often lie outside the immediate context of the problem. It is advisable to mix people from the field, from departments related to the problem, and even administrative profiles. For certain issues, it's also a good idea to include customers and/or suppliers.

Limit the size of the group to maximize the added value of collaboration.

Define responsibilities and tasks. Specify objectives, clarifying them if necessary. Compile all the information and data needed to deal with the subject (references, audits, studies, breakdown and accident histories, etc.).



2.2 2D - Defining the problem

Solving a problem requires a **detailed understanding of all its dimensions**. We need to go beyond a simple statement of fact, and identify exactly what we're dealing with: what is the nature of the problem? Who is involved? What are the conditions of occurrence? What are the impacts? Where was the problem detected? When was it detected? How was it detected? How many products are involved?

The 5W method is ideal for a complete investigation.

For a more effective search - and if the situation allows it - **the group can visit the place where the problem is occurring**, to gather more information to help define the problem: configuration of the site, proximity, etc. Another requirement: don't settle for vague terms.

Another requirement: do not be content with vague terms. Try as far as possible to quantify each fact.

2.3 3D - Implement a temporary corrective solution

Some problems can't wait for the resolution process to be completed. A temporary but immediate curative solution must be found and implemented to eliminate undesirable events. This applies in particular to problems which have a major impact on customers, personal safety, the environment, costs, etc.

Be careful not to choose a provisional solution without sufficiently careful consideration. There's no question of creating new problems by trying to solve one.

These actions can be :

- Reworking, which consists in bringing the product or situation back into conformity;
- Reclassification, which consists in downgrading the product to make it conform to requirements (often less stringent) different from the initial requirements;
- Repair, which consists in making the product compliant with its intended use. Unlike trade-in, repair actions can affect all or part of the product;
- Disposal, which consists in preventing the product from being used intentionally;
- Derogation, which consists in authorizing the use or release of a product that does not comply with the initial requirements;
- Proposing a commercial gesture or compensatory action to the customer.

2.4 4D - Identify the root causes of the problem

For permanent eradication, we need to act on the real cause(s). It's not unusual for apparent factors to be merely the effects of a deeper explanation. Only by identifying them can the problem be eliminated once and for all.

There are many methods for carrying out such an investigation. These include :

- the 5 whys: a simple approach based on brainstorming and repeating the question "Why?" 5 times.
- the cause-and-effect diagram (also called ishikawa or 5M): based on a fishbone-shaped mapping of possible causes.
- the affinity diagram, another tool for causal analysis



2.5 5D - Define permanent corrective actions

Analysis of the causes leads to one or more solutions to correct the malfunction. In some cases, experimentation on a small sample is necessary to ensure the effectiveness of the chosen options.

It's rare to be able to eliminate the causes of a problem with a single action. In most cases, you'll need to define several actions that need to be planned and coordinated to correct the causes of the problem and prevent its recurrence. To do this, you need to:

- Define the action plan;
- Identify deadlines and responsibilities for processing;
- Define criteria for certifying the effectiveness of corrective actions taken;
- Implement action plans;
- Check the effectiveness of actions over time.

Records of all these stages should be kept on a dedicated tool (form 8D) or in a general monitoring tool for non-conformities and improvement actions. You will note the main information relating to:

- Description of the problem ;
- Immediate action(s);
- Cause(s) identified;
- Details of corrective actions;
- Effectiveness criteria, objectives to be achieved;
- Results of action(s) taken.

2.6 6D - Implement and validate ongoing corrective actions

Successful implementation requires an effective deployment plan: the tasks to be carried out, in what order, by whom, with what resources...

Don't forget to set up monitoring tools and define solution validation criteria.

As soon as the permanent corrective actions have been validated, if necessary, withdraw the temporary actions implemented in step 3.

At the same time, a communication plan is welcome to inform stakeholders of the project's progress.

Finally, when actions have an impact on processes, such as the content of employees' missions or the way they work, don't forget to manage change. Success is not just a technical issue, it's also a human one.

Once you've taken action, you'll need to evaluate its effectiveness. This means ensuring that the original problem and its effects have not reappeared. This can be done by carrying out tests, controls or experiments.

If the expected objectives have not been achieved, the working group should be reconvened to analyze the reasons and take appropriate action.



2.7 7D - Take action to prevent the problem from recurring

Capitalize on the knowledge acquired in the 8D process to take preventive action.

These may be similar situations (identical context, but different location) or configurations (e.g. similar organization).

Once the effectiveness of the corrective actions taken has been assessed, the working group must consider how these actions can be deployed in similar situations, products or processes. The aim is to standardize effective corrective actions.

In this case, the actions to be taken will not be corrective (since there is no problem yet) but preventive. They are implemented in a similar way to corrective actions.

Among the preventive actions usually taken are:

- Updating documentation (procedures, instructions);
- Updating methods and tools (drawings, processes, tooling, etc.);
- Staff training;
- Infrastructure modifications.

2.8 8D - Congratulate the working group

Acknowledge work done, efforts made and investments made by congratulating team members. This is important to keep employees fully motivated, and to facilitate their involvement in the next process.

This phase is also an opportunity to take stock of the process itself: difficulties encountered, what worked well, etc. The aim is to improve practices.

Page 7 sur 7







