

Root Cause Problem Solving

For many organisations, root cause problem solving is a forgotten skill.

Do you:

- Keep finding the same mistakes and errors occur?
- Have regular complaints about products or services from customers?
- Never quite know why things go wrong?
- Fix things, but never get to the root of the problem?

If so, root cause problem solving could be the answer.

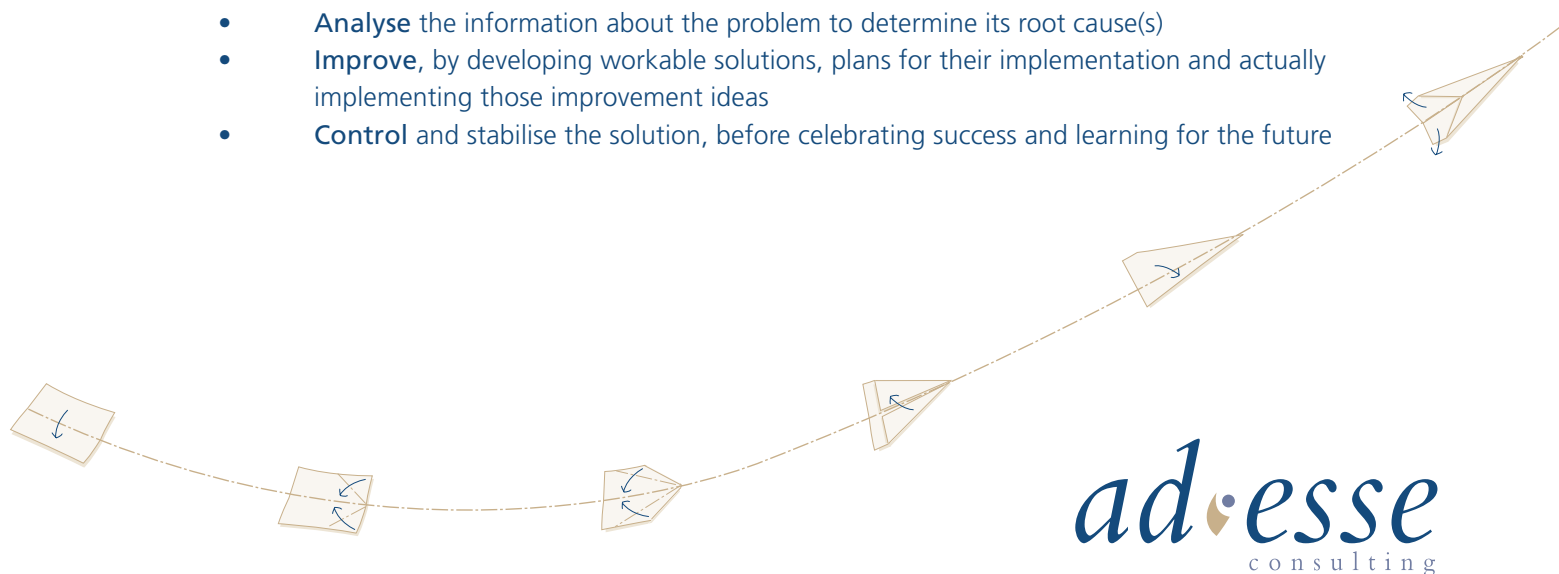
A “Problem” is a deviation from requirements – any time you are not getting the performance you require, or expect, you’ve got a problem. Most people are not good at solving problems using a combination of creativity and analysis; you need both. You also need a framework to help you make the most of creativity and analysis. Tools and techniques without a framework are usually doomed to fail.

You can also use many of the tools to help implement improvements related to “opportunities”, or ideas people have generated, rather than just focus on “problems”.

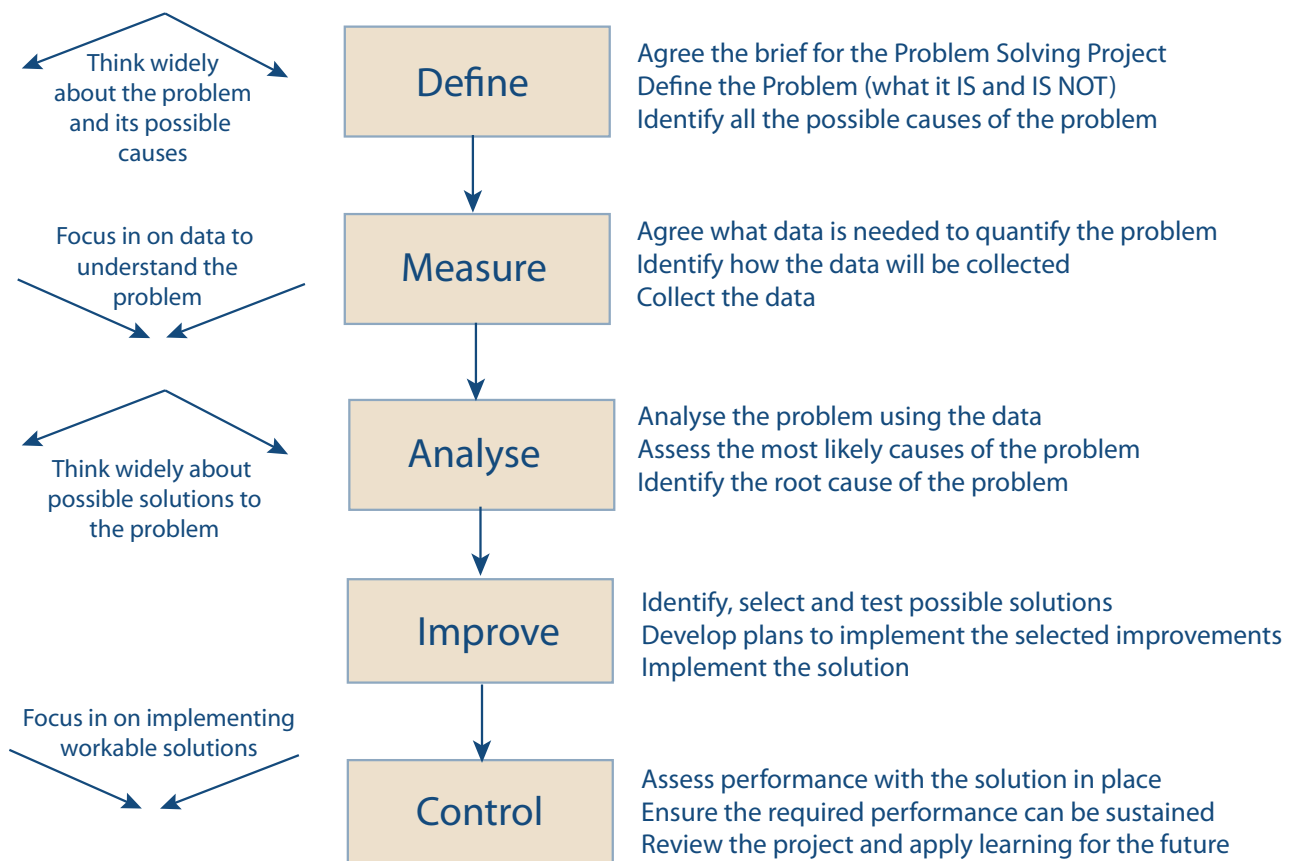
OUR APPROACH

We use a problem solving framework and approach based on the DMAIC cycle:

- **Define** the problem and the criteria for successful improvement
- **Measure** the problem, both quantitatively and qualitatively
- **Analyse** the information about the problem to determine its root cause(s)
- **Improve**, by developing workable solutions, plans for their implementation and actually implementing those improvement ideas
- **Control** and stabilise the solution, before celebrating success and learning for the future



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DEFINE

Here, the aim is to be clear exactly what the problem is that you are trying to solve and, in many cases, establish a project brief for an appropriate team of people to work to. Wherever possible, we encourage teams to keep the brief to one side of paper, covering:

- a definition of the problem
- the improvement objectives
- who owns the project (a Sponsor, with energy and authority)
- who is going to lead the team and who will be on the team

The problem definition is best described using the following five questions:

- WHAT is the problem?
- WHERE is the problem?
- WHEN does/did the problem occur?
- WHO is affected by it (not, who do we blame it on!)?
- HOW BIG is the problem (and is it getting worse)?

It's usually also helpful to try to answer the same questions for what, where, when, who and how big the problem is not. That puts some boundaries around what you need to work on and might highlight potential areas to look for solutions (e.g. it happens in this office, but not that one; so what can we learn from that?).

Following a clear definition, the team can begin to identify possible causes of the problem. The classic tools such as Brainstorming and Cause/Effect (Fishbone) Analysis are ideal here.

MEASURE

The list of possible causes should prompt people to look for data to verify the causes. It's all too easy to leap to solutions at this stage, but you risk implementing what might turn out to be only Quick Fixes, with the real problem coming back to bite you again later. Any gaps in the answers to the problem definition questions might also be prompts for areas in which to gather data.

There is a whole range of measurement tools in the kitbag, ranging from those used to gather objective data, such as Checksheets and Concentration Diagrams; to those for gathering perception data such as interviews and questionnaires. You might also want to do some process mapping to help understand the context within which the problem occurs.

One of the key points to remember in deciding how to measure the problem, is that of "stratification". Think about how you might want to "slice and dice" the data before designing your data collection tools. It's a bit of a pain coming back with data and then realising you ought to have stratified it by Grade, or Age, or Department.

The Measure stage helps you focus quantitatively on the problem.

ANALYSE

Here, we try to get some meaning from the data we have gathered in order to identify root causes. Tools such as Pareto Analysis (the 80-20 Rule) and all the various charting tools (Histograms, Bar Charts, Line Graphs, Scatter Diagrams) need to be used here.

For more complex problems you might need some statistical analysis and there are plenty of tools in the Statistical Process Control (SPC) and Six Sigma toolkits that can be helpful.

By the end of the Analyse stage you should be ready to look for solutions that will address the root causes of the problem.

IMPROVE

Now is the time to identify potential solutions. As with looking for possible causes, Brainstorming is one possible tool to use. However, if you've done the right analysis, the solution might just be obvious.

Sometimes, you'll have to choose between a number of possible solutions, so criteria-based decision tools such as Rating Sheets can be helpful. If you're working on a process-related problem, techniques such as Clean Sheet Design can also generate radically new ways of operating the process.

At this stage, you not only have to find viable solutions, but also test them for potential adverse consequences (e.g. using Risk Analysis, or Solution-Effect Analysis).

Implementation planning also starts now and tools such as Force Field Analysis can help focus on the Change Management aspects of the implementation as well as the “technical” aspects.

CONTROL

Once you have implemented the solution, the Control stage is where you ensure the problem has really been solved, by re-measuring performance. You also need to build confidence that the improvement is sustainable and that once the problem solving team has disbanded, the problem won't just drift back. It is important that the solution is “handed over” by the problem solving team and owned by those who need to maintain the improved levels of performance.

And finally, as with all the best continuous improvement processes, the success of the project should be reviewed to identify learning for the future.

HOW DO YOU IMPLEMENT ROOT CAUSE PROBLEM SOLVING?

First of all, what you don't do is “sheep dip training” of people in a whole list of problem solving tools and techniques. People will be overloaded and confused. They need to understand the DMAIC improvement approach and be capable of using relevant tools and techniques within that framework. They also need to be able to see how the approach and tools can be applied to their own problems and organisational situation.

Our consultants have been helping clients to define, understand and solve problems for many years. The tools and techniques we use and the approaches we apply have a proven track record in service and manufacturing organisations, in both the private and public sectors. It gives us a unique ability to tailor our support to a client's specific needs.

Many of our clients want us to help their people develop effective root cause problem solving skills. We do that by training, coaching and facilitating.

Our workshops and improvement programmes are highly participative, often using the client's own problem situations and data, so people learn “for real”. We make extensive use of practical exercises and case studies designed around the client's situation. By learning to use the tools on a current, live problem, people gain both skills and confidence; and the added benefit of delivering some real improvement.

Our coaching and facilitation is usually done by working with a team, on a client's current problem. We help set up the team, plan the approach to the problem and guide them through to delivery of a successful, measured outcome.

Organisations adopting the Six Sigma improvement philosophy will be familiar with the DMAIC approach we have described above and will often give people these skills under the banner of “Yellow Belt” training. The more advanced process improvement and statistical analysis skills would be covered as part of “Green Belt” and “Black Belt” training.

None of this is new; but much of it has been forgotten by organisations. All of it, applied pragmatically, delivers real business benefits and increases staff capability to drive future improvements.

WHAT OUR CLIENTS SAY

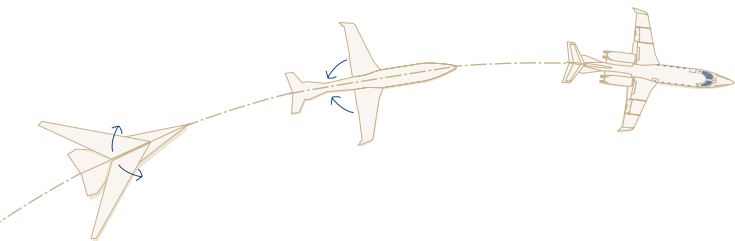
“The best part of the event was that it was tailored to our real life situation and we could work on some real root causes”.

“The practical application testing on actual problems was the best aspect”.

“Got us all working as a group; never lost my interest at all. Truly superb”.

MORE INFORMATION

To find out more about how we can help your organisation identify the root causes of performance problems and develop workable solutions, contact us at: seriousfun@ad-esse.com



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FURTHER INFORMATION

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