

BETTER THAN YESTERDAY



Solve problems Reduce risk Improve performance



Foreword

Thank you for downloading this eBook.

Sologic is the world's leading specialist in Root Cause Analysis, a powerful, structured and scalable problem-solving method used by many of the world's most successful organisations.

With offices situated on five continents, it's fair to say that we've helped our clients to solve a problem or two. Of course, every organisation we work with is different and the challenges they face are certainly unique. But the skills, processes and behaviours required to solve stubborn and complex problems are not.

The good news is that, with the right support, advanced problem-solving skills can be learnt, developed and embedded in any organisation, within any sector.

Whether problems impact customer service, safety, quality, reliability, compliance or sales, great organisations, in all sectors, accept that problems will always occur. Alongside this, successful firms also recognise that major problems deserve to be addressed head-on and that a structured problem-solving method, shared across the whole organisation, is much more effective than any ad hoc one.



Great problem-solving provides the fundamental stability that underpins all great organisations. With firm foundations organisations, can genuinely become lean and agile and can apply the marginal gains that result in remarkable business improvement.

This eBook is a collection of the top ten essential problem-solving behaviours and processes that deliver these sought-after competitive advantages. The following chapters take a look at the various ways that successful organisations ensure they understand their problems fully, look beyond the obvious, apply effective and enduring solutions and learn from their biggest challenges.

Whether you're a seasoned industry professional, new to a decision-making role or simply keen on learning how successful firms operate, this eBook will give you valuable insight into how stubborn and complex problems are solved. You'll also discover many easy to adopt concepts that you can introduce to your organisation and which could make a real difference.

We'll leave the final words to the 20th Century American essayist HL Mencken, who had a typically frank take on the dangers of over-simplification:

'For every complex problem there is an answer that is clear, simple... and wrong.'



Contents

GREAT ORGANISATIONS...

1	know problem solving is a team game	05
2	build the stamina to fail	о8
3	solve the correct problems	12
4	champion accuracy above speed	15
5	separate analysis from narrative	18
6	look beyond what happened	22
7	don't play the blame game	25
8	don't stop at a single cause	28
9	don't rely on a magic bullet	32
10	share effective reporting	35
Κŧ	ey points summary	39
Yo	Your problem-solving checklist	
Cr	Credits and suggested reading	



...know problem solving is a team game.

Great organisations don't treat problem-solving as an individual activity. They build great teams, set them clear goals and allocate resources that are crucial to uncovering effective solutions.



The brutal truth is that solving complex problems as an individual, trapped within an organisational silo, is stressful, offers limited perspective and is seriously fatiguing. Worse still, it's extremely ineffective. Under such conditions, precious stamina, be it physical or emotional is quickly exhausted. Energy that would be best directed at long-term solutions is reoriented towards quickfixes, workarounds, denial, blame and, in some circumstances, even cover-ups.



All successful organisations know that major problems are never contained in convenient silos. Problems quickly grow and spread across an organisation with little respect for departmental boundaries. A serious problem in Customer Service quickly impacts on Finance, Marketing and Sales and can easily affect HR, Compliance and Purchasing. The immediate and visible impacts of a problem usually only represent the tip of the iceberg.

Great organisations recognise that experienced individuals, even those with an exceptional skillset, can never match problem-solving using the multiple perspectives delivered by a well-chosen team. The best problem-solving teams benefit from specialist knowledge combined with complementary skills, different backgrounds and alternative perspectives. How could we expect a team with expertise in just one area to fully scope a problem, comprehend the wider impacts and then decide on all forms of appropriate action?

Organisations that master effective problem-solving recognise this and they allocate time and resources appropriately, just as they would with all major planning or project management challenges. Effective problem-solving is an investment that offers enormous dividends if managed, resourced and rewarded well. Above all, problem-solving can be extremely rewarding. If the process is positioned as positive and prestigious, the best people will want to participate and will take ownership of the solutions and their implementation.



? Ask yourself:

Are you investing in the resources that are necessary to solve serious and complex problems?

Are you tackling problems using multiple perspectives?



Key point:

When a problem appears you can rarely see all of it. Solving it requires carefully assembled, well trained, motivated and adequately resourced teams. Done well, it is amongst the greatest investment an organisation can ever make.



Further reading:

RCA And The Hippo

www.sologic.com/en-gb/resources/blog/root-cause-analysis-and-the-hippo



2 ...build the stamina to fail.

Great organisations build the stamina to fail and they ensure important decision-making is evidence-based, and data-driven.



"Don't bring me problems, bring me solutions!" We have all heard this phrase and we may even have uttered it ourselves. But successful teams know that great solutions come from a full understanding of any problem – and that requires an acceptance of failure.

Why is this important? Just imagine life in an organisation that makes most of its decisions on gut-feeling or opinion and not on



information and evidence. Or worse still, one that uses its previous failures as a threat, instead of embracing the data for learning purposes. Such an organisation would, in all likelihood, not last long and certainly would not reach its full potential. Of course, few organisations set out to make decisions in this way. But many will drift towards the kind of informal procedures and cultures that discourage the identification of mistakes and the active sharing of failure data.

Organisations that successfully develop a culture in which positive and negative information is treated as equals are better placed to make fully informed decisions. They will better understand the potential effectiveness of solutions, the relative ease of their implementation, the likely returns on investment and, crucially, the potential risk of any changes.

Of course, this is not easy to cultivate and cannot be achieved quickly. Great organisations work hard to encourage their employees to share information, just as any good scientist would. Cuttingedge organisations are more open with their failures and they implement processes that close the gap between what happened and what should have happened. Alongside this, they develop and support an environment that maximises any opportunity to learn from negative events (Chapter 10).



? Ask yourself:

Does your organisation have an objective approach to information?

What can your organisation do to improve its stamina to fail?



Key point:

All individuals and organisations make mistakes. Fear of sharing the information and lessons learned will only increase the frequency and scale of future errors.



Further reading:

Do You Have The Stamina To Fail?

www.sologic.com/en-gb/resources/blog/do-you-have-the-stamina-to-fail



A problem well stated is a problem half solved.

CHARLES F. KETTERING Head of Research General Motors 1920-1947





3 ...solve the correct problems.

Are you solving the causes of your major problems or are you just trying to ease the symptoms?



When something goes wrong people usually think the issue they need to understand and solve is obvious. But, similar to a Russian Matryoshka Doll, every big problem is full of smaller issues. It is essential that both the organisation and the problem solvers themselves are clear on the exact problem they are going to tackle. Yet experience shows that when it comes to problem-solving



people are often viewing the issue differently and working towards different, even conflicting solutions.

Effective problem-solving teams carefully define both the issue that they wish to address as well as the frequency and the wider impacts of the problem. By achieving this teams become overtly aware of the nature and scale of the problem at hand. This generates a unifying focal point and they can start to ask effective questions such as, "what caused **this** problem to occur"? Carefully defining the problem (or opportunity) focusses efforts and ensures that the time spent solving the problem is both efficient and effective.

Being clear about the exact problem is also the only way to evaluate and monitor the solutions to see if they have been effective. Understanding frequency is no less important. Small but frequent inefficiencies can sap energy from an organisation just as significantly as one-off events.

More fundamentally, defining the problem and its associated impacts (both actual and potential) will have a significant influence on the resources an organisation will require in order to fully analyse the problem and provide solutions.

Undoubtedly the road to great problem-solving is littered with teams who failed because they either didn't define their problem clearly or they chose to tackle the wrong problem.





Ask yourself:

Have you clearly defined the problem that you want to solve?

Have you understood the actual and realistic potential impact of your problem?



Key point:

Every complex problem can be broken down into multiple issues that require solutions. It's important that problem solvers recognise this and tackle the area of the problem that is appropriate to their skills, resources and organisational objectives.



Further reading:

What A Tangled Web We Weave

www.sologic.com/en-gb/resources/blog/what-a-tangledweb-we-weave



...champion effectiveness above speed.

Successful organisations know that effective problem-solving requires curiosity and analysis and that this requires time.



Having a positive 'problem-solving culture' is essential for any business. There isn't a day that goes by in which a problem, big or small, doesn't arise and has to be solved. In this day and age of time poverty, targets and financial pressures we often feel the need to solve problems quickly, sometimes in an instant. This can be exac-



erbated by the perception that a good problem solver should be able to come up with great solutions immediately.

But how realistic is this? If you commissioned the construction of an offshore platform and a firm said they could finish the project in under a month, what quality of build would you expect?

Pressure, either real or perceived, to act quickly at all costs will lead us to a) jump to conclusions about what happened or b) jump straight to solutions. Without analysis how can we be sure that we know what really happened? And, more importantly, how do we know how effective and durable our solutions will be – or even that they are applied to the genuine causes?

In order to effectively solve problems, great organisations encourage a problem-solving mindset, one that is prepared to ask questions and is given time to investigate, analyse and test. Good problem-solving does not always take large chunks of time, but it does take the right approach – one of curiosity and persistence.

Great organisations commit to undertaking the necessary analysis. Only this generates robust solutions that benefit the wider operation. They do not become trapped in a loop of fixing repeat problems.



? Ask yourself:

Do you allow enough time to fully understand a problem or challenge?

Are you resisting the need to instantly explain the causes and solutions?



Key point:

There is regularly a temptation to solve problems quickly and, although this is often essential, it must happen in combination with (never in place of) the desire to uncover the genuine root causes.



Further reading:

The 5-Step Root Cause Analysis Method www.sologic.com/en-gb/about/root-cause-analysis



5 ...separate analysis from narrative.

Humans are natural story-tellers but stories do not make for strong analysis. Great organisations implement practices that promote an analytical mindset and encourage evidence-based decision making.



In recent years the lines between narrative (stories) and analysis (logic) have become increasingly blurred. Much of what we once considered narrative and opinion has been repackaged as analysis. Sure, much of the conjecture and opinion originates from experienced and trustworthy sources but it is, nevertheless, a narrative with all the inaccuracies that this delivers.

If you're uncertain about this, just turn on your TV or radio and select a show on politics, the economy or sports. Listen long enough and you'll hear an exchange that goes a little something like this;



Host: "This is an interesting development, now over to Chris for some analysis."

Guest/Commentator: "Thanks, Martin. In my opinion, I think it's pretty clear that this means [insert compelling speculative statement and some further opinion and speculation]."

So, what we're encouraged to accept as analysis is more typically opinion and/or guesswork and is highly subjective. Albeit tremendously convincing and extremely contagious.

Narrative is also the predominant form of information transfer in our working lives. When opinion, narrative and storytelling dominate, they have a dramatic impact on the effectiveness of our decision making. Encouraging us to paper over the gaps in our knowledge, accept faulty timelines and jump to conclusions and solutions.

In very simple terms, narrative is a hothouse for cultivating the illusion of certainty. But it doesn't have to be this way. Effective problem solvers employ visual cause and effect analysis (See Chapter 6) to break down the chain of events and to fact-check events in a logical step by step manner. Visual analysis shows us where our knowledge of an event is strong and where it is weak, or most likely, where it is missing altogether. The very opposite of a good story.



? Ask yourself:

Are you generating your decision making from facts or just from the most compelling stories?

What processes have you put in place to fact-check your information?



Key point:

When 'facts' are fluid or completely absent, virtually any solution can be made to fit virtually any problem – even ineffective solutions. Make sure you have conducted genuine analysis before solutions are generated.



Further reading:

Telling Stories

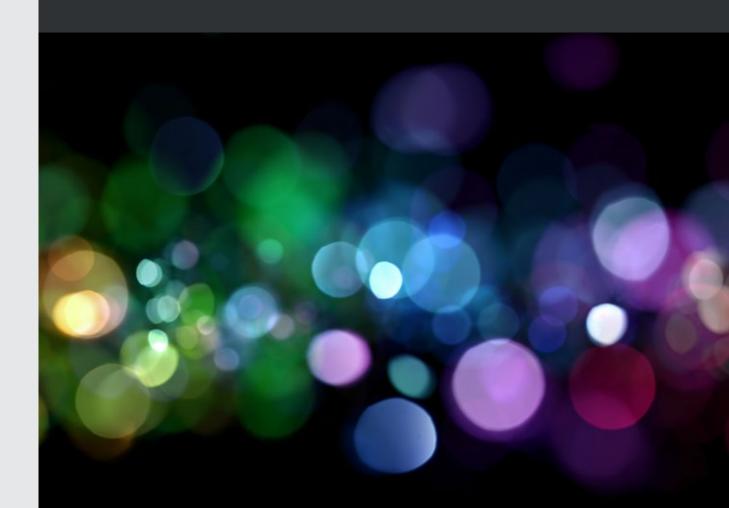
www.sologic.com/en-gb/resources/blog/telling-stories



///

They think that intelligence is about noticing things that are relevant (detecting patterns); in a complex world, intelligence consists in ignoring things that are irrelevant (ignoring false patterns).

NASSIM TALEB
Risk Analyst and Author





6 ...look beyond 'what happened'.

It's easy to view problems as actions that have negative consequences, but in doing so you ignore the less obvious structural conditions that enable the actions and specific outcomes to take place.



Imagine spilling water from a bottle. You not only have to tip the bottle over (the 'what happened'), you also have to have water in the bottle and no top on the bottle to restrict any leak. Usually, when we begin to investigate any problem, big or small, our immediate temptation is to try to understand everything that 'happened' – what decision was made, what action was taken, what change occurred. Sadly, many investigations stop there.



Great problem solvers know that these 'actions' (which normally involve a person or group of people) only ever reveal a small proportion of the causes of any problem. When we look closely, we realise that the majority of causes are to be found elsewhere, hidden in the conditions that surrounded 'what happened'.

'Conditions' encompass the "hidden players in the game", the systems, the expectations and the structures within which we all operate. This could mean the tools, hardware and software we use, or we could mean the more intangible conditions that are at play in any scenario. This might include workspaces, rotas, guidelines, schedules, KPIs, training levels, hierarchies and external regulation.

Organisations that focus their problem-solving activity on 'what happened' tend to gravitate towards people-orientated solutions. These solutions usually fall into one of three categories; Re-Train, Re-Write and Re-Communicate – More Rules, More Regulations, More Guidelines – the very things that were ignored the first time around. These 3-Rs tend to offer medium effectiveness at best and can easily slip into a blame culture (see Chapter 7). The issue isn't that the 3-Rs don't have value, they do! It's simply that the temptation is to place too many of our solutions in this area – loading even more pressure and stress on our workforce. Solutions applied to conditions are more robust and far more sustainable.



? Ask

Ask yourself:

Have you looked beyond the obvious?

Have you identified the systemic causes?



Key point:

Without effective analysis, it's all too likely that focus orientates towards people and the actions they undertake. Great organisations search for systemic and structural improvements. These are more effective, achieve broader buy-in and are easier to sustain.



Further reading:

Brass in Pocket

www.sologic.com/en-gb/resources/blog/brass-in-pocket



7 ...don't play the blame game.

When it comes to problems, there is nearly always a human involved. But were they really the cause or just the final part of an inevitable chain of events?



As you have seen from the previous chapter, organisations often stop at the most obvious causes of a problem. Not surprisingly this is often a person and this can result in the blame game. However, blame is not helpful when it comes to ensuring an incident doesn't repeat. Blame not only distracts from the bigger picture, it also causes people to close ranks and severely reduces the flow of vital information.



Great organisations do not confuse 'blame' with 'accountability'. Accountability not only means taking responsibility for any actions but also a willingness to give a frank account' of any events, thereby allowing specific steps that could reduce the likelihood of recurrence.

We explored the importance of data within problem-solving in Chapter 2. In order to ensure data flows freely, great organisations develop a culture that encourages error-makers (those who hold the data we seek) to be open and to explain why an event happened exactly as it did. If organisations jump too quickly to blame and punishment they reduce accountability and diminish their ability to uncover many of the deeper, systemic causes of the issue.

Of course, many organisations have an awareness of a need to reduce blame. In order to avoid 'pointing the finger' some of these organisations resort to catch-all categories like 'Human Error'. In practice, the term human error is vague and is interpreted in many different ways. This makes it impossible to effectively identify solutions.

Successful organisations work towards a 'Just Culture' or 'Culture of Accountability' through which they fully accept that people make errors. These organisations create environments where full and frank explanations can be volunteered safely and without fear of undue discipline. From here they can use this knowledge



to successfully drill back to uncover the specific root causes that made their negative outcomes possible (or more likely). Effective actions can then be taken to make repeat or similar outcomes less likely or even impossible.

? Ask yourself:

Have you 'drilled back' to understand what made that person behave that way?

Are you helping your organisation create a problemsolving culture



Key point:

All organisations are, at their core, data processing engines. They create data, attempt to understand it and then aim to improve their activity. Any behaviour that encourages individuals to withhold information or close ranks will stem the flow of that data and can ultimately reduce performance.



Further reading:

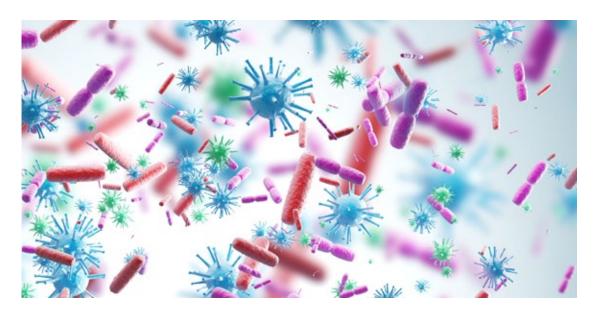
From Bias to Blame

www.sologic.com/en-gb/resources/blog/from-bias-to-blame



8 ...don't stop at a single cause.

Great organisations recognise that problems are never the result of a single cause. They deep dive into a problem to reveal all the contributing factors.



When asked to describe the difference between himself and a typical person, Albert Einstein explained that the typical person, faced with the problem of finding a needle in a haystack, would stop when he or she had located a needle. But Einstein said that he would tear through the entire haystack looking for all possible needles.



Often, organisations believe that great problem-solving is all about finding that one, all-encompassing root cause. The misconception is that if they can uncover this single root cause and eliminate it, this will prevent the problem from recurring. Great organisations know that there is never one 'root cause', but many causes that combine simultaneously. They know if they address just one cause (no matter how dominant it may appear) they will not address the supporting circumstances and risks that could allow this event to repeat elsewhere in some form.

In Malcolm Gladwell's game-changing bestseller from the year 2000 - 'The Tipping Point' - he begins his discussion by looking at the episode of a major public health epidemic, a resurgence of syphilis, that rocked the US city of Baltimore at the end of the 20th century. Media outlets had blamed the epidemic on one "root cause" or another, but Gladwell's research highlighted four singular but co-dependent causes. Firstly, the obvious, namely that the disease existed in many crowded areas of the inner city. Secondly, this was a period when drug use sky-rocketed in the city, leading to behaviour that supported the spread of the disease. Thirdly, 1995 saw deep and wide-ranging federal cuts in medical services, meaning that, on average, an infected person was carrying the disease for three to four times longer before receiving treatment. Finally, in the mid-1990s Baltimore famously set about destroying two huge 1960's public housing projects in the city, one in the east and one in the west.



This resulted in an unprecedented migration and mix of the city's population. Uncovering just one of these causes and applying an isolated solution would not have been enough to stop the epidemic – you need to recognise the co-existence of all four to address the genuine root causes of the epidemic.



Ask yourself:

Have you taken into account that your problem will have multiple interdependent causes?

If you apply just a single solution, how much risk still remains?



Key point:

Effective problem solvers gather and manage data in a structured way, opening their thinking as to how seemingly small and unconnected causes coexist to create events that are, on occasion, enormous.



Further reading:

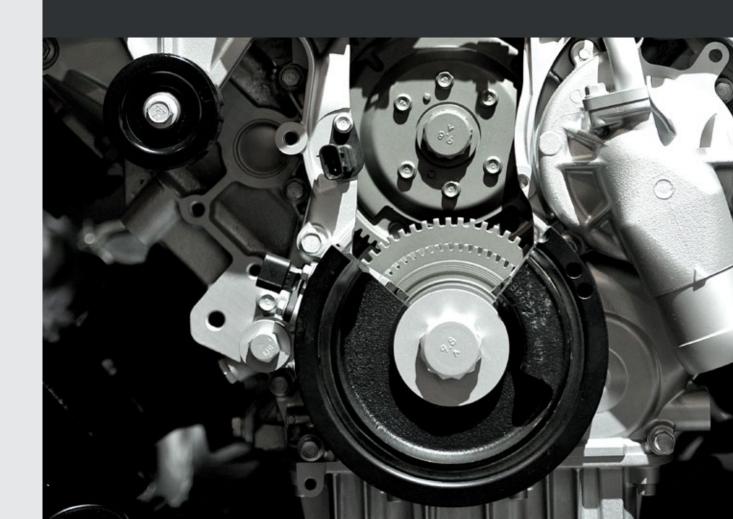
What Really Caused the Epidemic

www.sologic.com/en-gb/resources/blog/what-really-caused-the-epidemic

The secret to modern F1 is not really to do with the big-ticket items; it is about the hundreds of thousands of small items, optimised to the nth degree.

JAMES VOWLES,
Chief Strategist Mercedes F1

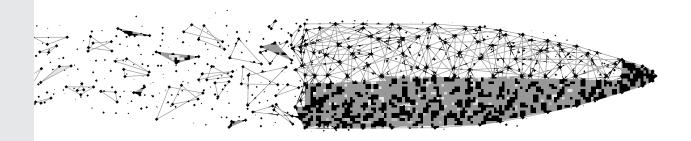






9 ...don't rely on a magic bullet.

Uncovering effective solutions requires a combination of creative and logical thinking.



In addition to trying to find a single unifying root cause to a complex problem, organisations can also become fixated on uncovering the 'right' solution. Great organisations know that to uncover a 'magic bullet' or 'unicorn solution' is a pursuit that is usually doomed to fail. Furthermore, this obsessive search can easily distract attention away from simpler, readily available solutions that don't have the perceived 'magic' quality. Worse still, these mythical solutions tend to distract us from meaningful analysis and towards romanticised outcomes.



Organisations that complete a high-quality analysis of major problems using a visual method, like cause and effect charting, are at a major advantage when it comes to generating solutions. They can use their analysis to methodically visit all of the many causes of a problem, both big and small. They can see where major causes are and they can see where their analysis and evidence are strong. From here they can brainstorm for potential solutions that might break the causal chains. Tactical and strategic solutions can then be targeted at specific causes with pinpoint accuracy.

Great organisations will assemble problem-solving teams that are able to evaluate possible solutions using a combination of logic and creativity and that understand how to develop and implement their chosen actions. Using a structured process allows teams to quickly identify a full range of solutions and evaluate these against a pre-agreed set of criteria, including; effectiveness, ease of application, speed to apply, return on investment and hidden risk.

The best solutions will address the root causes and not just the symptoms.



? Ask yourself:

Have you utilised your analysis to uncover the solutions?

Have you systematically evaluated your solutions against specific criteria?

i

Key point:

Multiple solutions applied across a number of specific causes will always beat one 'killer solution'. Meeting established criteria will help you build a strong business case for your solutions.



Further reading:

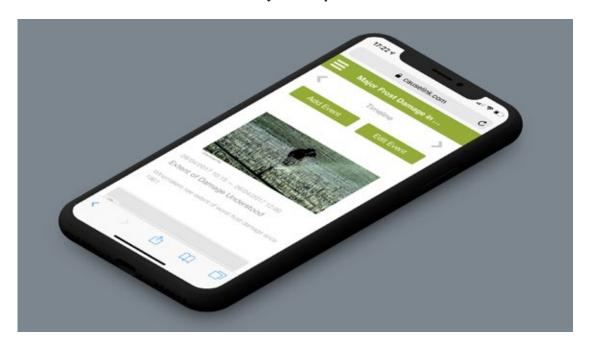
RCA Training Options

www.sologic.com/en-gb/rca-training/overview



10 ...share effective reporting.

Great organisations pride themselves on effective reporting. They create and utilise intelligent ways to record, present and share critical information – and they act upon it.



All great organisations collect, understand and communicate valuable information. The aviation industry has become the benchmark for organisational reporting. Telemetric systems in aviation share real-time information, delivered in clear, digestible chunks. This allows key staff and organisations to stay ahead of an information curve that is sometimes the difference between life and death.



Unfortunately, though, many organisations slip into the trap of assuming that a report is only effective if it holds every conceivable piece of information available. The result of this approach is the creation of huge, indigestible reports that few people read and even less understand.

Effective reporting is very different. An effective report will document the incident clearly, provide the key evidence and describe all the impacts on the organisation. It will include an easy to understand visual analysis and will concisely document any proposed solutions (including those that were rejected). Effective reports provide a strong case for change, they are streamlined, timely and engaging. If they don't clearly explain the key aspects of a problem and highlight what the organisation should do about it, the report will have failed. The challenge is, and always has been, to get the key outcomes recognised and embedded into the policies, procedures and training guidelines that really matter.

Above all, great organisations recognise that their reporting system is the key (sometimes the only) communication vehicle between very diverse stakeholders. Therefore, any system of reporting must be easy to access; it should also be simple to understand and it has to be clear who will benefit from the change it demands. Without this, an organisation will dangerously limit their institutional learning and thus fragment its corporate memory. Not learning from past mistakes is a sure-fire way to leave risk unaddressed.



? Ask yourself:

Can staff easily gain access to reports that are pertinent to their role?

Will the output from your problem-solving generate reports, reveal trends and reduce future failures?



Key point:

If you don't report well, the knowledge will be lost forever. Great organisations integrate effective reporting into their systems, build in accessibility and drive the sharing of this knowledge.



Further reading:

Causelink RCA Software

www.sologic.com/en-gb/rca-software/overview

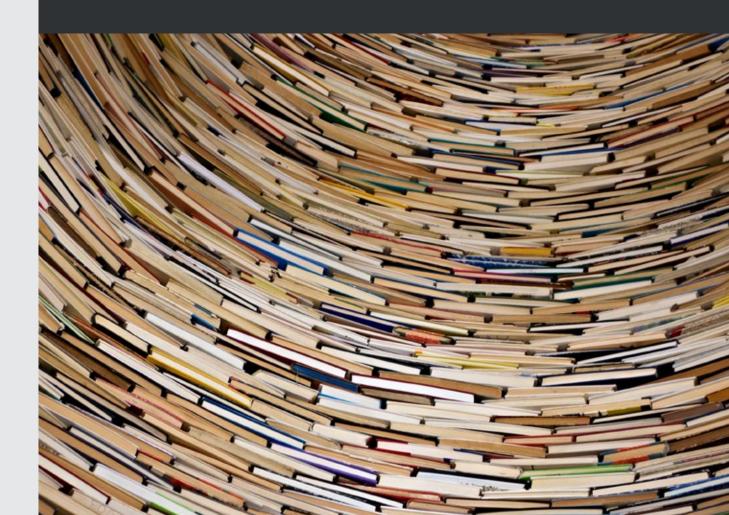


You must learn from the mistakes of others. You can't possibly live long enough to make them all yourself.

ELEANOR ROOSEVELT,

20th Century American Diplomat









Key points summary:

When a problem appears you can rarely see all of it. Solving it requires carefully assembled, well trained, motivated and adequately resourced teams. Done well, it is amongst the greatest investment an organisation can ever make.

All individuals and organisations make mistakes. Fear of sharing the information and lessons learned will only increase the frequency and scale of future errors.

Every complex problem can be broken down into multiple issues that require solutions. It's important that problem solvers recognise this and tackle the area of the problem that is appropriate to their skills, resources and organisational objectives.

There is regularly a temptation to solve problems quickly and, although this is often essential, it must happen in combination with (never in place of) the desire to uncover the genuine root causes.

When 'facts' are fluid or completely absent, virtually any solution can be made to fit virtually any problem – even ineffective solutions. Make sure you have conducted genuine analysis before solutions are generated.



Without effective analysis it's all too likely that focus orientates towards people and the actions they undertake. Great organisations search for systemic and structural improvements. These are more effective, achieve broader buy-in and are easier to sustain.

All organisations are, at their core, data processing engines. They create data, attempt to understand it and then aim to improve their activity. Any behaviour that encourages individuals to withhold information or close ranks will stem the flow of that data and can ultimately reduce performance.

Effective problem solvers gather and manage data in a structured way, opening their thinking as to how seemingly small and unconnected causes coexist to create events that are, on occasion, enormous.

Multiple solutions applied across a number of specific causes will always beat one 'killer solution'. Meeting established criteria will help you build a strong business case for your solutions.

If you don't report well, the knowledge will be lost forever. Great organisations integrate effective reporting into their systems, build in accessibility and drive the sharing of this knowledge.



Your problem-solving checklist:

1.	Are you investing in the resources that are necessary to solve serious and complex problems?	
2.	Are you tackling problems using multiple perspectives?	
3.	Does your organisation have an objective approach to information?	
4.	Can your organisation improve its response to failures?	
5.	Have you clearly defined the problem that you want to solve?	
6.	Have you understood the actual and realistic potential impact of your problem?	
7.	Do you allow enough time to fully understand a problem or challenge?	
8.	Are you resisting the need to instantly explain the causes and solutions?	
9.	Are you generating your decision making from facts or just from the most compelling stories?	
10.	Are processes in place to fact-check your information?	



11. Have you looked beyond the obvious?	
12. Have you identified the systemic causes?	
13. Have you 'drilled back' to understand what made that person behave that way?	
14. Are you helping your organisation create a problem-solving culture?	
15. Have you taken into account that your problem will have multiple interdependent causes?	
16. If you apply just a single solution, how much risk still remains?	
17. Have you utilised your analysis to uncover the solutions?	
18. Have you systematically evaluated your solutions against specific criteria?	
19. Can staff easily gain access to reports that are pertinent to their role?	
20. Will the output from your problem-solving generate reports, reveal trends and reduce future failures?	



Credits:

Author:

Fd Wells

Contributors:

Suzanne Crouch, Jonathan Batchelor, David Tooth

www.sologic.com/en-gb



Suggested reading:

The Tipping Point by Malcolm Gladwell

The Silo Effect by Gillian Tett

Black Box Thinking by Matthew Syed

The Black Swan by Nassim Taleb

Thinking, Fast & Slow by Daniel Kahneman

Sologic Blogs: https://www.sologic.com/en-gb/resources/blog

Contact us:

USA and Canada

info@sologic.com

South America

southam@sologic.com

Mexico and Central America

mexico@sologic.com

Australasia

australasia@sologic.com

Europe

europe@sologic.com

Asia & Pacific Rim

asia@sologic.com

Africa

africa@sologic.com