Environmental problem solving and organisational culture – working together to get the best outcomes

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Traditional approaches to complex environmental problem solving are almost never effective. There are substantial challenges with problem refinement, organisational ownership and delivery of interventions through non-traditional methods. Solving complex environmental problems need a different approach and EPA Victoria has tackled this by applying an environmental problem solving framework. This paper outlines EPA Victoria's approach to solving environmental problems using a straight-forward information driven process. In applying this approach, we have had environmental successes in tackling targeted environmental problems. Examples include:

- Contamination of stormwater by electroplating industry - turning thousands of water quality data points into targeted work with electroplaters
- Illegal Dumping at Quarries – using intelligence to assess the spread of quarries across Victoria, and identifying potential vulnerabilities these present as illegal landfills.

While the application of the environmental problem solving approach sounds quite straightforward in principle, we have also found that the culture of the organisation is of critical importance to the success of the approach. This paper also outlines the importance of facilitating the formation of the teams of the "right" people to form, take ownership of the intervention and its delivery and ensuring people feel they have permission to get involved and act. EPA Victoria found that this requires a cultural commitment from the broader organisation to work differently, allowing staff time to participate and be recognised for their efforts in delivering innovative interventions to solve complex environmental problems. Most critically, this has included learning to be more adaptable, both in a cultural sense as well as within the practical application of the problem solving approach.

Environmental Problem Solving

Environmental problem solving is a structured approach to solving complex environmental problems that are not getting fixed by routine or conventional efforts. At EPA the knowledge of this approach sits largely within the Operations Strategies Unit who then involve the rest of the organisation in the key steps of identify the problem, analyse it, measure it, and create tailored and targeted solutions. Adopting a single approach for complex issues across the business enables the lessons to be shared and the problem solving process to be collectively improved across the state. When the solution is implemented, its effectiveness is measured, and adjusted if needed. When success is achieved the project is closed, with ongoing monitoring to ensure the problem does not arise again. This approach is based on the work by leading regulatory academic Professor Malcolm Sparrow.

Problem Solving and Culture

Of course the best process or approach will fail if you don't have a culture in the organisation that enables it. EPA Victoria has clearly outlined its commitment to a positive culture through values and guiding behaviours. Our corporate plan and regulatory approach (known as the "Q", depicted in Image 1 below) puts a focus on using the collective skills and resources of the organisation to solve environmental problems using a broad framework of tools & methods. The challenge for EPA and the Operations Strategy Unit is to get the collective skills and resources of the organisation to work in tandem, and not in isolation, to build, deliver and evaluate programs that address critical environmental harms.

Image 1 – EPA Victoria's Regulatory Approach

By focusing on particular values the team determined the most important from EPA's broader guiding behaviours, the business knows what to expect from interactions with the problem solving team. This in turn helps to strengthen EPA's commitment to a positive culture whilst also delivering clear outcomes for difficult problems.

Outlined below are examples of where this approach of combining cultural goals with a problem solving approach has resulted in some fantastic environmental outcomes.

Examples of Problem Solving and Culture

1. Contamination of Stormwater by Electroplating Industry

A project team was mobilised to address the issue of elevated metals in creeks and waterways. The project lead brought together a team of people from across the business that had expertise in field activities, compliance & enforcement, behaviour change, scientific expertise in toxic and corrosive chemicals and engagement expertise in the typical traits of small-to-medium enterprises (SME's). This group set out at the start of the project to clearly define the problem based on evidence available and developed a hypothesis and a specific plan of action and determined the measurements of success for the program. This involvement was critical when it came time to execute the project as the experts credibility helped to motivate and engage the project team required to implement it.

2. Illegal Dumping of Industrial Waste at Quarries

EPA's Illegal Dumping Strike Force had been receiving anecdotal evidence that quarries were at high-risk for illegal dumping of industrial waste. The project lead convened a team comprised of experts in analytics and illegal dumping behavior, compliance and enforcement expertise, and government extraction market expertise to develop a set of characteristics to determine what makes quarries more vulnerable to dumping. From this, the project team was able to narrow down a possible target group of thousands of quarries down to a manageable number of compliance inspections, targeted where risk was thought to be highest. Building this knowledge together meant that the project team took ownership of the issues and could clearly see their role in the development of interventions to solve the problem. Rather than relying on the traditional "transactional" approach where a project manager dictates the needs of the program and sources those resources through a variety of means, a collaborative approach by a select group of

purposefully targeted individuals created momentum, enthusiasm and drove outcomes within a short 6 month timeframe to complete the project.

What We've Learned and Where to From Here

The Operations Strategy Unit has been on an interesting journey – resulting in the development of a successful plan for delivery of solutions to complex problems. We found that:

- A reliance on transactional interactions within the business was not resulting in outcomes that solved the problem. EPA needed to shift it's mode of operation if it wanted to solve the problems it identified as priorities.
- Co-design and ownership of a problem and its solutions across the business is most successful where the right people with the right skills are brought together to shape the problem definition and subsequent interventions/solutions from the outset – it is very difficult to bring people in halfway through a project and expect ownership for delivery.
- Communication is key – we have been constantly reminded of the need to "stay on message" in all of our interactions. This has been particularly true as each phase of the problem solving approach is completed. A question that is often asked is, "So who owns this now?" The Operations Strategy team has learnt that without constant and consistent messaging through face to face interactions, the business quickly shifts back to its comfort zone – a transactional approach.
- Support from the senior leadership level is critical – without it, these approaches will fail. Staff need to know that they have the "license to operate" and will be supported if they call on management and/or executive to get issues resolved and projects back on track when project team members see complex problem solving as an "add on" to their regular work.
- The organisation is learning to be more flexible and to adapt as we learn more about the problem through application of the approach. This relies on teams being able to (culturally and practically learn and adapt in a constructive manner.

The journey is only beginning – embedding complex problem solving approaches within environmental regulators is only now making its way into the mainstream of operation for this sector. EPA Victoria hopes that its experience will help guide other regulators who want to shift to this type of approach.