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introducing kai sigma



New tools and techniques, training and the dedication of staff to focused project teams can make six sigma a daunting prospect to some organisations. But is there an easier way in? **Martin Brenig-Jones** outlines a new approach

Organisations in the public and private sectors, whether with a manufacturing or service focus, are all keen to look at methods for improvement. It seems as if it ought to be relatively straightforward to achieve improvement and to build on current gains, but is it happening?

For a variety of reasons, it seems that many improvement programmes and initiatives never quite deliver their potential. Some never really get started and some businesses can never be sure what programme to introduce – whether lean, six sigma or kaizen would be the appropriate tool to use. The primary causes for this failure centre around leadership understanding and commitment, the role and behaviour of managers and the potential complexity of the tools and techniques needed in the improvement process.

Kai sigma

But what if things were different? We've developed an approach, kai sigma, to address these issues. Kai sigma brings together the powerful concepts of kaizen, ie involving people in continuously seeking to improve performance, but within the framework of DMAIC (define, measure, analyse, improve and control), a tool used in six sigma. So, improvement can then come from focusing on how the work gets done and how well it gets done.

Firstly, managers and their teams need to have a clear understanding of their processes and roles.



Managers should work on processes with the people involved, to find ways of continuously improving. By working in this way, people feel capable and are able to challenge and improve their process and the way they work.

Secondly, improvement activity needs to be undertaken systematically, using the framework of DMAIC commonly used in lean six sigma programmes. This helps avoid the dual temptations of jumping to conclusions and solutions without really understanding the problem. The DMAIC methodology provides a framework for the project which ensures business problem solving goes through a rigorous approach – not just jumping to solutions. The methodology focuses first on the define and measure phases of understanding what the problem is and how bad it is, such as delays and errors in invoicing or defects in products shipped to customers. The approach then focuses on the analyse phase, getting down to the root causes. Then, in the improve phase, on getting to the best solution to solve the problem and finally, the control phase.

The key principles of kai sigma are as follows:

- the improvement is undertaken pragmatically
- pre-project training time for team members is minimised
- the approach is well facilitated by people who are able to identify how best to tackle the problem, using the right method and the right tools
- the results come through quickly

These key concepts are supported by a carefully selected set of practical and relevant tools and techniques that enable people to solve problems. At its heart is the need to ensure that people at all levels of an organisation both feel able and are able to contribute suggestions and to implement changes to processes. Naturally, this has significant implications for the culture of the organisation

and for the role of the manager.

Kai sigma has so far been operated as a facilitated workshop approach to improvement, but it is not intended as a 'training delivery' product (although training and coaching requirements might be identified as a result), nor is it intended as a replacement for a full lean six sigma programme. Where organisations are unsure of the improvement route to take, kai sigma may provide a way forward, enabling them to assess:

- the effectiveness of the approach
- the readiness for an improvement programme
- what they are realistically able to implement
- next steps, from taking on the approach themselves to introducing a full-scale programme

The kai sigma approach does need to be expertly facilitated by people who are able to identify how best to tackle the problem, using the right method and the right tools. They also need to know how to scope the problems being addressed and to assess when more advanced tools and techniques might be needed.

In terms of the commonly used tools needed, they are likely to include:

- CTQs (critical to quality)
- SIPOC diagrams (suppliers, inputs, process, outputs, customers)
- process stapling
- process or value-stream maps
- theory of constraints
- seven wastes
- Kaizen's five-step method (5S)
- visual management
- data collection
- data displays, control charts, Pareto diagrams
- fishbone and interrelationship diagrams
- FMEA (failure mode and effects analysis) and error proofing
- control plans

Case studies

Retail sector

A well-known specialist retail chain currently undergoing a major change programme opted to use kai sigma. In this case the approach has proved successful; a basis for rapid action was created by the improvement team even before the first facilitated workshop had taken place. The tools utilised in the 'define' phase of the workshop included:

- 15-word flipchart (to help create the problem statement)
- affinity diagram and interrelationship diagram (for some collaborative working around the issue with the team members present)
- SIPOC – a process scoping tool

One of the keys to success here has been the skills of the facilitator who is a highly experienced ex-General Electric (GE) black belt. She avoided using lean or six sigma jargon and focused the team on using the tools in a way which they could relate to in their everyday work, while also engaging with senior management before and after the event.

In this respect, kai sigma has some similarity to the successful 'workout' improvement workshop-based approach, which was originally developed in GE during the 1990s where Jack Welch specifically engaged local teams in improvement activities.

GP surgery

South Street Surgery in Bishops Stortford, a GP practice with 20,000 patients, opted for kai sigma to tackle a specific problem with patient calls. Again, no training of project team members took place before the first workshop.

This workshop was run as a one-day rapid improvement event using the kai sigma principles to tackle a telephone queuing problem that patients were experiencing when calling in at 8.30am on Monday mornings to make clinical appointments. The DMAIC methodology was used literally over the course of one day to take the team through a structured problem-solving approach. This resulted in a prioritised list of improvements.

Dr Paresh Dawda, partner at the surgery, said: 'What it has enabled us to do is harness the thoughts and suggestions of the frontline workers (the receptionists) who already knew the solutions. By involving them in the process and coming up with the solutions, when it's come to the implementation, we've had their wholehearted support, which is great.'

Discussing the benefits of the workshop-based approach, Dr Mark Jenns, senior partner, commented: 'The first event convinced us that this was a very useful way of doing things to achieve change quickly. You can have lots of ideas for change but they never actually happen or take months to process. This rapid event really puts a lot of time and effort into a focused approach.'

These are a mix of tools and techniques used in lean and six sigma, but if appropriate, the facilitator does not need to use the language of lean six sigma. The aim is to involve people in making improvements to their processes through a series of workshops following the DMAIC phases.

It starts with a clear definition of a problem and a relatively narrow scope. We need to understand what's happening now. How does the work get done? How well does it get done?

Process stapling is a very effective technique that also serves to highlight non-value-add and waste. It may highlight potential solutions immediately and can be accompanied by what we call a 'walking flipchart'. Basic data is gathered using this flipchart to capture the opportunities, such as identifying waste, non-value-add steps, the need for 5S or visual management.

Sometimes, the first steps will be agreeing a standard process, where there is none. This will provide real gains very easily and enable some stability and predictability in the process. The reality is that a process cannot really be improved until it is standardised. Once this is carried out, there is a genuine chance to stabilise the process and prompt further improvements.

If defects occur, the first question should be, 'has the standard process been followed?' If it has, then the process needs to be improved. Either way, once the process is truly understood, it can be improved.

In the evolving culture of continuous improvement, processes need to be constantly examined, encouraging ideas from the people in the process, and using kai sigma, where appropriate. As performance increases over time and improvement gains become harder to achieve, it is likely that more formal DMAIC improvement projects will be needed, using more sophisticated tools and techniques, but kai sigma is a good place to start.

What's different?

So how does the kai sigma approach compare to a more traditional six sigma project? In the main, the improvement team members will be the people in the process. This will involve them for up to five or

six days full-time, over five or six weeks, or, in some cases, a one-week hit. This compares to perhaps four months part-time in a traditional DMAIC project, though the actual team hours may turn out to be similar.

There is also likely to be more use of team knowledge rather than detailed analysis with a bias for action (perhaps 70 to 80 per cent confident as opposed to 95 per cent in a typical six sigma project). You might also find that the solution may be known by the team, but historically they have not been listened to. Either way, implementation of the solution is actioned quickly.

As with a traditional DMAIC project, the control phase in kai sigma is vital to ensure the improvement gain is maintained. The control phase ensures that the solution is implemented and a good control system with the right ongoing measures is put in place and that this continues after the improvement project has been satisfactorily completed.

This is something that can be overlooked in typical lean improvement activities. Although lean brings important additional tools and techniques into the toolkit, it does not have an underpinning methodology akin to DMAIC and therefore does not have the rigour of the control phase.

In summary, we believe that kai sigma provides the way forward, whether you are just starting on an improvement path or whether you have started already, but have lost direction. It's important to stress that our approach is to maximise the potential from lean thinking and six sigma by integrating the two approaches. One plus one really does add up to more than two. Lean six sigma produces a natural and powerful synergy, but to achieve this in the long term, kai sigma might provide an initial stepping stone 

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