

Ready, Fire, Aim...

In Part One of a two-part series QNewZ columnist, **Ian Hendra** shows how Deming's red beads and funnel can avoid whoopsies.

Let me tell you a story: Of late, things are getting hard here in Wellington...

Government town is under siege

As you know, Wellington is 'government town'. Many Wellingtonians work or have worked for various outfits that boast '.govt.nz' in their work email address. Also, many others work for other public sector employers, and many more work in the supply chains that support them. The trouble right now is that, since salaries are the most expensive item in the monthly profit and loss report, current political imperatives to improve 'efficiency' are seeing good people manoeuvred off payrolls on a very regular basis.

For example, I know of one person with 10 exemplary years of service in a '.govt.nz' agency being made redundant by sleight of hand in a so-called 'restructuring' that has left the organisation short-handed in a critical area. That this person has had 20 in-a-row six-monthly performance appraisals with a "significantly exceeds expectations" grading meant nothing, apparently.

Obviously looking after staff, Branson style (ref 1), isn't something the State Services Commission concerns itself with in its role as setting the scene for public sector employers. Silly me, what on earth could someone who has created eight \$1bn enterprises over the last 40 years possibly know about organisational efficiency?

Solutions first – Ready, Fire, Aim

You see, we're back to my pet hate: Solutions First Syndrome – or as it has been described elsewhere – Ready, Fire, Aim! Not only that, but there is the omnipresent inevitability of "what you measure is what you get". I call it: WYMIWYG. Tell management to reduce costs and they'll off-load people. Tell them to improve efficiency and most will struggle with the concept, and then come up with some 'jargon' to baffle the punters...then off-load people.

Only the elite few will do the obvious; namely, work out which processes are able to be improved and optimise systems to capitalise on the change opportunity.

Ridiculous

So what's the outcome? Position descriptions for new vacancies in Wellington these days are likely to be 'ridiculously fictional'. My reading of new position descriptions suggests that, in order to cover the self-inflicted shortfall on the cheap, they now include roles and responsibilities covering several whole professions, and disparate ones at that. For example: accounting, quality improvement, procurement, team management, IT support, database management, facilities management, project management...all in one person, and for a salary delivered in a peanut packet.

Whether this is due to wishful thinking, incompetence or a delight in setting up new staff for a fall is a mystery to me. Only HR aficionados can answer this, I guess.

Clearly, little thought has gone into analysing the processes involved or the inevitabilities of tampering with them. Surely

there is a better way to improve systems or processes than distorting them or the data they deliver (ref. 2). Yes there is, and our whole QA profession is built on them! Enter Dr W Edwards Deming.

Two keys

Two key (apologies for the pun) understandings are lighthouses that would protect the benighted decision-makers from the organisational shipwrecks that I fear are facing our public service employers at the moment. We'll cover the first this time, and the second in my next column.

Key understanding 1: The red bead experiment

Back in the late 1940s when Dr W Edwards Deming went to Japan to assist in the recovery of their domestic economy he developed a four-day course (ref. 3 & 4) designed specifically for executives and senior managers. He had learned that, in the immediate aftermath of the Second World War, teaching line managers about process management wasn't enough; he had to start at the top if change was to take root.

On day two of the course he ran the Red Bead Experiment using a kit (ref. 5) like the one shown in Figure 1.

- The box contained 4000 white beads and 1000 red (20% of the total).
- The paddle had holes on a 5x10 matrix, ie 50 holes, each hole machined to hold one bead.



Figure 1: A Red Bead kit (Ref. 5)

Dr Deming started by picking six 'Willing Workers' as he called them, quite deliberately, from the participants. Then he picked two 'inspectors'.

He went on to describe his company whose customers wanted white beads – only white beads. The company bought beads from a supplier but there were a few red nonconforming ones in the supply that the 'Willing Workers' were instructed to avoid. He then trained the workers by showing them exactly how to dip the paddle into the box of beads so that all 50 holes were filled. Workers were not allowed to touch the beads, nor adjust the process in any way.

Each paddle full of 50 beads was a day's production. Each worker produced a day's set of beads in turn, but of course there were red nonconformities in each lot (there are nine in the paddle in Figure 1). Any attempt to adjust the process incurred the wrath of 'The Boss' (Dr Deming himself).

Each count was inspected and recorded by inspector 1 then

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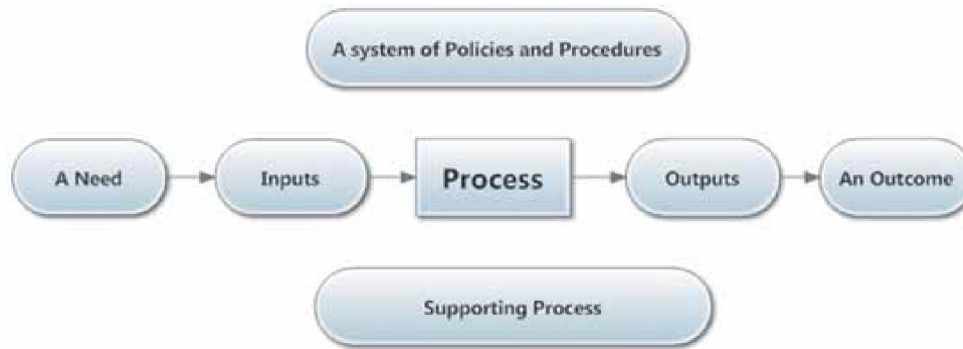


Figure 4: The complex model also includes all the supporting processes.

it and make it work (figure 4). These will be processes such as purchasing, inspection, testing, QA, training etc.

So, if we are really serious about our processes, then for the very important ones we would align all of these features with our process. Or better still, align our processes with our policies.

4. Processes are more than procedures

If you were to look in the procedures in your organisation you would recognise the headings under which you would include all of this.

Purpose should answer the question about what need and outcomes we are trying to achieve. All too often I see the Purpose of a process as meeting the requirement of a standard. If we are compliance focused that might be OK,

but it doesn't help me to understand the requirements of my customer or the intent of my process.

References should guide us to the supporting processes, legislations etc that help us make this process work effectively and efficiently. Not just generic references to massive legislations and bulky manuals, but references that really help us. Which part of the safety rules affects this process? What aspects of the environment does this process affect?

So this sounds really quite simple and easy. Write some procedures, employ skilled staff and the quality should be good! But all processes have variation – and that is where the problems begin.

For further information contact: rveitch@optusnet.com.au

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verified by inspector 2, then reported to The Boss who would comment on the results by way of a 'performance appraisal'. Amidst much hilarity, those with a low red bead score were praised but those unfortunate enough to select a high score were threatened with dire consequences.

He ran four 'days' of production and used the data to produce an nP control chart with a mean and Upper and Lower Control limits that looked like the ms.xl chart (Ref. 6) at Figure 2.

Forgive me for not providing example data and the maths here, but those of you who've done NZOQ's Certificate in Quality Assurance (CQA) will be familiar with it. I suggest you look at references 3 and 4, as they have it set out very well indeed and, of course, nobody should be without reference 7.

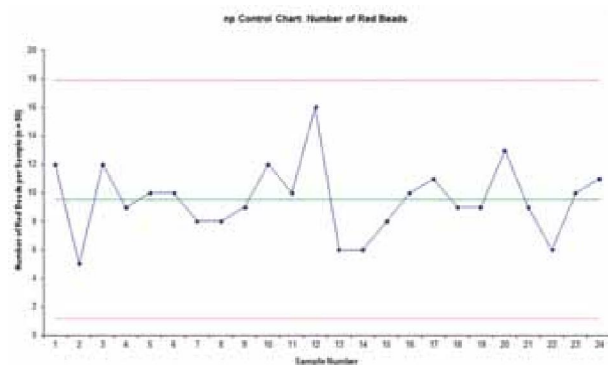


Figure 2: nP chart (ref. 6)

Among the lessons of 'lighthouse' significance from the Red Bead Experiment were:

1. All work is a process with a variable but measurable performance.
2. Workers are victims of the process not the other way round.
3. Only management can change the process.
4. Clear instructions are vital.
5. Incentives, ridicule, blame, banners and slogans, and appraisals do nothing to affect the inherent performance of the process.
6. Inspection after the event has no effect on the performance of the process.
7. Processes must be designed and controlled to meet customer expectations in the first instance. It is ridiculous to agree to meet performance beyond that which the process is capable of delivering.

So that's the first set of lessons; next time we'll cover Dr Deming's Funnel Experiment and put the two together.

For further information contact

ian.hendra@clearlineservices.co.nz

References

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