AMQ International's

STRATEGIC # 320 ASSET MANAGEMENT

July 11 2011

The Asset Manager's Prayer

Dear Lord
Help me to determine the issues ***I can do nothing*** *about*
the issues that ***I can do something*** *about*
and the issues that ***I must do something*** *about*
and let me ensure ***I do at least the latter.***

Lately we have become so enthralled by the 'if, when and maybes' of global warming and environmental sustainability where there is, as yet, little hard information on which to base asset management decisions - and we have failed to deal with those issues that we really can deal with right NOW.

I am talking about the need to develop the skilled maintenance base that we need in order to ensure that our assets can be sustained in the future - because funding is not enough - if the skills are not available to be bought.

In this issue, I look at:

Dr Penny Burns, Editor
AMQ International
08 8359 0559
www.amqi.com

Thoughts from the Coffee Shop

Thoughts on Succession Planning

Each fortnight you receive an email from us when we upload the latest issue. All the clever stuff about sizing the pictures in the right way so that they look good on both the email you are sent and on the website itself, and managing the uploading generally and the email database, is done by my daughter and long time assistant, Mercedes. She is such a whizz with things technical that I can afford not to be. However, for a number of months now we have planned to transfer the technical knowledge In Mercedes' head to mine - 'just in case', but it always seemed that there were more important, or simply more urgent, things to be done whenever we got together. And then it happened. A few days ago, Mercedes suffered breaks to the bones in her arms and now has one in a cast and the other in a splint. Not the easiest way to use a computer! Many of you will have had dealings with Mercedes in the past, will have recognised her cheerful voice on the telephone or had her quickly fix a problem for you. I am sure that you wish her a speedy recovery, as do I! Our delay this week was in my needing to learn in a hurry what I could have learnt with more leisure had I started sooner.

Thoughts on Flexibility v. Longevity

In today's world of rapid change, one would have to agree that flexibility trumps longevity when it comes to asset management. And yet! Our key management tool is still 'life cycle costing models', a tool for reducing the life time cost of an asset by extending asset life - i.e. longevity. Where is the model that will help us reduce cost by enabling our assets to quickly and easily adjust to (as yet unforeseen) changes?

And thoughts on Strategic Asset Management (read 'philosophy')

> "The society that scorns excellence in plumbing,
> because plumbing is a humble activity,
> and tolerates shoddiness in philosophy,
> because philosophy is an exalted activity,
> will have neither good plumbing nor good philosophy -
> neither its pipes nor its theories will hold water."
>
> John Gardner, former Secretary of HEW (cited by Joel Leonard)

AGEING, AUTOMATION AND MAINTENANCE

Across the world populations are ageing and the proportion of populations in the workforce is declining.

Faced with this situation we are turning more and more towards automation.

We have the technology

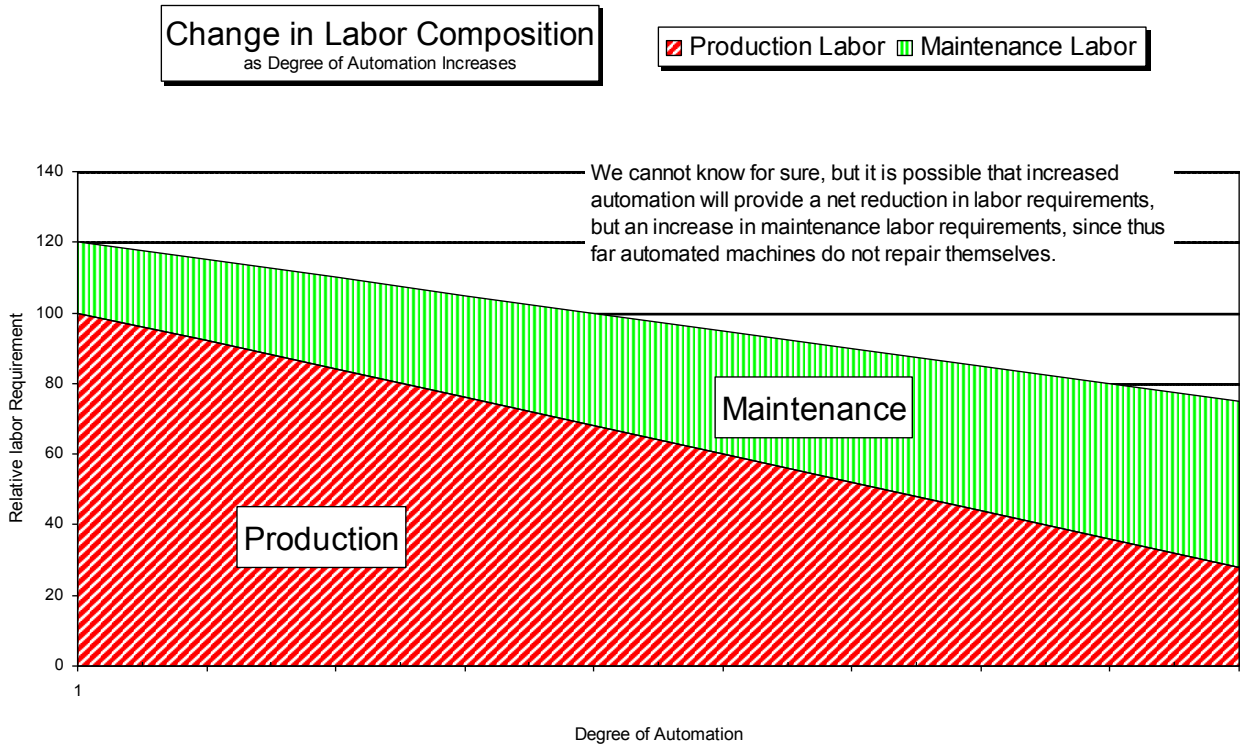
A recent in-depth German study ['Demography and Infrastructure' edited by Tobias Kronenberg and Wilhelm Kuckshinrichs, Springer, 2011] concluded that technology development was up to the task of increasing automation.

So we can construct - but can we maintain?

We need to face up to the new maintenance realities

IMPACT OF AUTOMATION ON MAINTENANCE

This graph and pictures on pp 5-7 courtesy of Joel Leonard, SkillTV



AN ATTITUDE PROBLEM - PRODUCTIVE LABOUR V. OVERHEAD IN A KNOWLEDGE SOCIETY

Our entrenched attitudes are wrong

It is a feature of the 'knowledge society' that a smaller and smaller proportion of our workforce are needed to actually produce things or service. We now have machines for that.

But machines do not manage and repair themselves. So the more that we use machines for production rather than people, the more we need to invest in the staff that can manage and maintain the machines.

And this is where we run up against entrenched attitudes and thought patterns:

productive workforce (operations) = good (to be maximised)

overheads [maintenance, management, research]= bad (to be minimised)

No wonder we are in strife!

> *We can see this attitude affecting policy everywhere. In the UK, it was decided to sack managerial staff in the hospital system so that more money could be spent on doctors. Good politics, perhaps, but poor practice. Now doctors (with little experience in this area) are having to rehire managerial staff, IT staff, and skilled equipment maintenance staff.*

The New Realities

In the 'knowledge society' we need to change our ideas about what is 'productive' and recognise the positive role that skilled maintenance plays. We need to elevate the role of those highly skilled technicians that make technology and automation work. We need to value them - and we need to train them.

"Look what happened at Chernobyl. They had a gauge with a warning device on it, and when the crunch came it didn't fail, it worked the way it was supposed to. And some poor dimwit looked at it and decided it must be broken because it was giving an abnormal reading. So he ignored it." Lawrence Block. USA author.

ELEMENTS OF THE "PERFECT MAINTENANCE STORM - in pictures

Joel Leonard (the 'maintenance evangelist', SkillTV.com) argues that we now face all the elements of "A Perfect Maintenance Storm"

Ageing equipment and infrastructure
Sophisticated New equipment that requires skilled asset care
Existing workforce is ageing out and undertrained on new equipment
Future generations not pursuing skill development for these careers
Deferred Maintenance reaching chronic levels

Ageing equipment and infrastructure

+

Aging equipment needs upgrading to power state
Inland Valley Daily Bulletin, CA - Jul 28, 2006
... the recent outages were the result of an aging infrastructure unable ... It's what Southern California Edison euphemistically calls "equipment failures.". ...

Sophisticated New equipment that requires skilled asset care

+

Existing workforce is ageing out and undertrained on new equipment

+

Future generations not pursuing skill development for these careers

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Deferred maintenance reaching chronic levels

Fixing leaks can avert world water woes

21 Aug 2006 1:21 PM ET By Alister Doyle, Environment Correspondent

STOCKHOLM, Aug 21 (Reuters) - Fixing leaky pipes in conurbations from Mexico City to New Delhi is a better way to avert water shortages as the world population grows than costly schemes such as dams, a leading expert said on Monday.

"There is no shortage of water in the world, but there is a crisis of management of water supplies," Asit Bitwas, head of the Third World Centre for Water Management in Mexico City, told Reuters during a meeting of 1,000 experts on water in Stockholm.

"In nearly all the megacities nearly 40 to 60 percent (of water) never reaches the consumer" because of leaks and poor maintenance, he said.

Aug. 14, 2006, 3:30PM BP spill highlights aging oil field's increasing problems

USA Today ANCHORAGE, Alaska — Oil giant BP searched for skilled workers and steel pipe Tuesday to replace badly corroded transit lines that this week forced the shutdown of operations at the largest oil field in the U.S.

North America - 2006
Any reason to expect the situation to be radically different for
Australia and New Zealand - 2011?

TAKING ACTION to improve Maintenance Skills and Availability

"All talk, no action!" A charge that can, unfortunately be levelled at many of us, in the strategic asset management arena.

But there is much we can do - as individuals within our own organisations, as members of our professional associations, as catalysts for common action by related organisations.

Here is Joel Leonard's Fort Bragg Regional Alliance strategy

PHASE 1. INDUSTRY OUTREACH

Target: The general public; young people
Intent: Increase the interest of young people in developing maintenance skills

Provide a variety of FREE Public Workshops via Continuing Education at the Region's Commuity Colleges.

PHASE 2. RELIABILITY EVENTS

Target: The industry; today's maintenance staffs
Intent: Recognise the value of today's maintenance workers and the importance of skill upgrading by the industry

Provide events like Reliability Tradeshows, Technology Tailgate Parties, Skilled Maintenance Jobfairs. To boost awareness and support within the industry.

PHASE 3. UPGRADE SKILL PHASE

Target: Existing and intending maintenance staff
Intent: Encourage and provide the capability to increase skill levels

Offer a variety of industry association certifications: CMRP, CFM, CPMM, BOMI Certification

PHASE 4. CURRICULUM UPDATE

Target: Teaching institutions
Intent: Broaden and update academic offerings in maintenance courses

Work with Deans to incorporate reliability, sustainability, and Green Collar Offering into curriculums.

And the Benefits?

Benefits for Participating Area Companies

Increase Equipment Uptime
Increase Reliability
Reduce Operational Costs
Upgrade skill sets of incumbent workers
Succession Development plans

“We were introduced to a UE brand ultrasonic leak detector. We were so impressed with the ease of use, that Goodyear purchased one. The number of air leaks that were repaired with this new Leak detector allowed Goodyear the opportunity to completely shutdown one 500 hp air compressor. This resulted in a cost savings to Goodyear in excess of $800,000.00. Since being introduced to the equipment the plant has continued to reduce our energy loss and shutdown another air compressor. We have repaired over 3000 air leaks at our facility. We have purchased a total of 4 ultra sonic detectors and now we are moving towards a thermography program.

This program will require specialized training that is not currently available in this area. We are working to find a training source that we can bring in or train at offsite. This is very expensive to Goodyear, but with our proven results with air leak repairs our managers are willing to invest.

The training and information provided has helped us (maintenance) to convince our plant management to implement Reliability Centered Maintenance (RCM) and Total Productive Manufacturing (TPM) in our facility. “

Stan Edgerton, CPMM Maintenance Specialist Tire Assembly,Goodyear Tire and Rubber.

Regional Benefits

Retain existing employers within region
Build stronger workforce skillset within region
Provide competitive advantage to attract more potential employers to region.

Personal Benefits

Recognition of worth
Increased skills mean increased employability and salary

For more information

visit Joel Leonard at

SkillTV. net

BENCHMARKING FOR BEGINNERS:
A guide for public sector asset managers

2 : WHAT DO YOU WANT TO BENCHMARK?

In Part 1, we looked at the three prime reasons WHY one may wish to benchmark, namely

1. to improve performance
2. to demonstrate something
3. to exert control

However, there is one more reason that is worth paying attention to because it is the reason that many undertake a benchmarking exercise in the first place, and that is

4. to identify goals to aim for in target setting

From now on, all of your decisions will be determined by your WHY choice. We shall omit discussion of 'exerting control' until later.

Each of the above goals requires a different approach.

What will become obvious as we progress is that the *style of* benchmarking best suited to one target is *not* best suited to the others, and to answer "all of the above" or to fail to make a choice at all, is one of the prime reasons that so many benchmarking exercises fail to achieve anything (except lost time, resources and credibility!)

All roads lead to Rome?

You may argue - and with reason - that your *demonstrations* or your *selection of targets to aim at* will lead to *performance improvement*. But that does not mean that the available benchmarking procedures are interchangeable. They are not.

DEMONSTRATION

Suppose that you wish to demonstrate that your performance excels? (This might be to satisfy your board, or CEO, or to gain greater freedom in decision making.)

The best choice in this situation may be either (1) a very general measure if you are generally strong across the board (overall satisfaction perhaps) or (2) a specific measure that highlights your strong points.

Suppose, however, that you wish to demonstrate that your performance needs improvement? (In order, perhaps, to secure extra resources or greater attention from senior management.)

The best choice in this situation may be to choose your weakest area/areas.

Note that in choosing these areas for benchmarking, you are not learning anything about performance improvement. But then, that is not the purpose of benchmarking for demonstrating.

What else might you wish to demonstrate?

Maybe a need for resources of a particular type - e.g. more computing facilities? Then you may wish to target areas/functions/processes where these facilities play a large part in the outcome.

Demonstration is often the motivator for benchmarking. But agencies do not like to own up to it. So they will call it by another name - generally 'performance improvement' but do not be misled.

While I was an advisor to the Minister of Police in Tasmania the police union 'benchmarked' themselves against the Victorian police. Actually, what they did was to compare the wages and salaries paid in Victoria to the wages and salaries paid in Tasmania and call it benchmarking. They said that they had benchmarked themselves against other jurisdictions but had they? Equal pay for equal work is fine, but were the demands on the pollice in quiet and peaceful Tasmania the equivalent of the demands on the police force in the much larger and ethnically diverse Victoria? If you don't want your demonstration benchmarking to appear to be special pleading rather than a genuine case, you will need to ensure that the circumstances and desired outcomes are similar.

TARGET SETTING

Suppose that you wish to set some reasonable targets to aim at, but you don't know what is 'reasonable'?

You may then choose to undertake a benchmarking exercise to find out those areas in which you are in the lead and those areas where you are behind the pack.

This is one of the most common reasons for benchmarking.

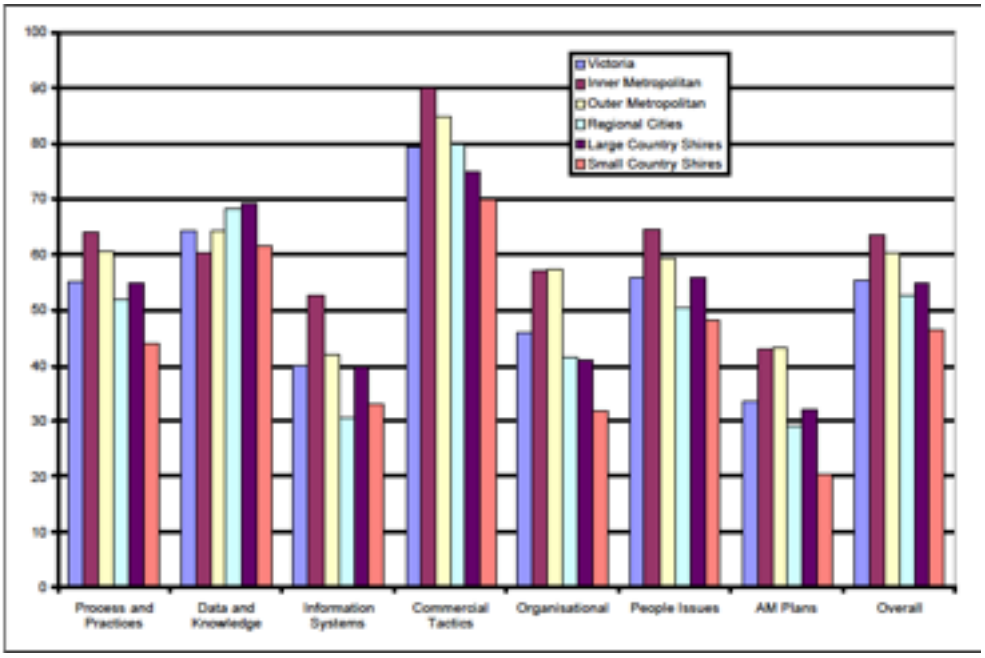
Here you will want to avoid benchmarking general outcomes or pre-selected functions which were appropriate for benchmarking for demonstration. You will want to engage in benchmarking many functions all at the same time so that you are in a position to choose the areas that seem to lend themselves to improvement.

The WHAT in this case is all functions or processes within a given area. It may be all asset management processes, but target setting benefits from depth of information so that you would be advised to limit the range to a subset - e.g. selection, collection and use of information; or decision making processes (as distinct from asset actions).

You have a choice of

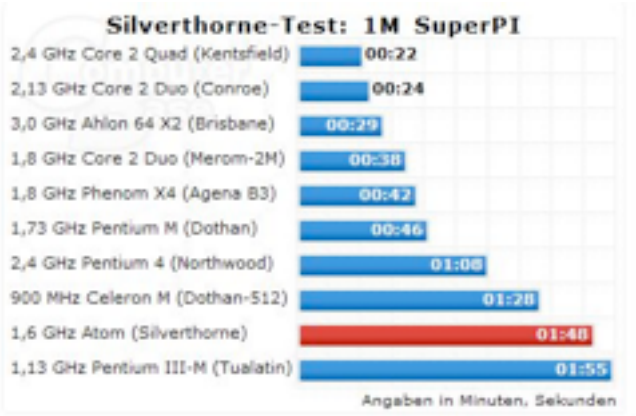
(1) **benchmarking your functions against pre-set, consultant determined 'best practice' levels**

This is a type of benchmarking in common use by local government. However, it is popular for both industry and the public sector where the processes do not lend themselves to natural numerical outputs. For example, scores on 'processes and practice' and 'data and knowledge' need a scale to be measured against. The output of such benchmarking is a score for each process against 100 as in the figure below:



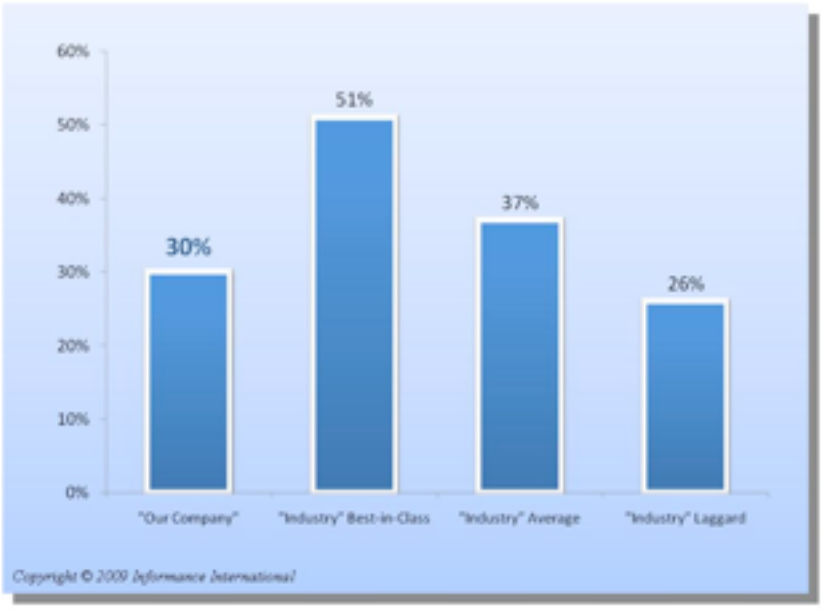
(2) **benchmarking yourself against the general performance of your peers.**

Here there is no predetermined range, it is determined by the nature of the participants. The output here will look something like the following, where your own score is highlighted and compared with the rest of the participants in the study.



These may be named or they may be anonymous. In the case above the result for each participant has been identified. However, if there are too many participants to indicate each individually, you may have an output that looks somewhat like the following Both of the above are types of benchmarking that I call 'benchmarking by the numbers' and for target setting or for demonstration they are quite suitable.

Figure 4 - Benchmark Enterprise Against Same Industry



Neither will tell you HOW to improve the performance of those areas where you score low. They will, however, indicate areas where there is a possibility of improvement (as indicated by the fact that others are already doing better than you are).

However if your benchmarking aim is to learn how to improve your performance, you will need to do something else.

PERFORMANCE IMPROVEMENT

The key to success is knowing what process changes lead to what outcome changes.

It is interesting to note that in the public service - where, by and large, there is no or little direct competition between organisations - the in-depth style of benchmarking inaugurated so successfully by Xerox is seldom done. Yet this is the preferred style of benchmarking by those industry members who are serious about finding ways to increase performance.

On-site comparison of processes against outputs

In the late 1970s, Xerox noted that the Japanese could sell competitive products into the American market at prices as low as Xerox's own manufacturing costs. It asked itself how this could be so since the Japanese had to cover transport costs and still make a profit. This led them to compare manufacturing costs – and processes – first with its Japanese affiliate, Fuji Xerox, and then with other competitors. Later it started comparing service levels and customer satisfaction. Xerox put what it learnt into practice and throughout the 1980s it continued to study and refine. This resulted in it recovering its markets and being number one or two in all the markets it contested. Such a recovery was much praised by the business industry and the business press and "benchmarking' as a successful management technique was born.

But few people were prepared to work as hard as Xerox or for as long. They wanted shortcuts. They noticed that, as part of its process/outcome comparisons, Xerox had measured many of the inputs used in the processes. And they began to consider whether a shortcut could be taken that would generate the same kind of success – perhaps they could just take measures, without the need to compare processes?

Some organisations started seeing a profit for themselves in collecting this data whilst others saw even more profit in setting standards, measuring the 'gap' between the self defined standard and their participants' practice - and then offering training to reduce the gap. Benchmarking became a business in its own right.

Next issue:

In part 3 - HOW and WITH WHOM we look more closely at these various styles of benchmarking, and particularly at the question of **how to understand and interpret the results that you obtain.**