

391

**May 19
2014**

**AMQ International's STRATEGIC
ASSET MANAGEMENT**



**What IS Asset Management
- and how do you justify it?**

Just two questions today - but they are fundamental.

I have been discussing the issue of 'What IS Asset Management' with a number of leading asset managers in both the private and public sectors, and in Australia and overseas, and plan to bring you a number of different points of view to help you decide what it means to you. In this issue we start with Ruth Wallsgrove, a very experienced trainer and researcher. (pp 2- 6)

The second question is rather dependent on your answer to the first. Here I look at a forum discussion on justification and try to apply some clarity. I make 4 recommendations. Please let me know whether these are of practical use to you, or if they need amplification.(pp 7-10)

Consider and Enjoy!
Penny

PS. You will find additional information on the second issue in previous issues of SAM, and in particular, in Issue 376, Sep 30 2013 ' A Benefit:Cost Assessment of Asset Management (what are the benefits, what effort is required to get them - and, an important question not often enough examined - where in the organisation will they be experienced?) pages 5-6'

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SO WHAT IS ASSET MANAGEMENT?

**Ruth Wallsgrove, Principal Consultant
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In the past couple of years I've worked with asset managers on almost every habitable continent and in many different sectors – lots of electricity, water, rail and oil & gas, but also some in councils, rescue services, financial institutions, aerospace, construction, health.

I am comfortable with the PAS 55 definition of Asset Management –

The systematic and coordinated activities and practices through which an organization optimally and sustainably manages its assets and asset systems, their associated performance, risks and expenditures over their lifecycles for the purpose of achieving its organizational strategic plan

– because it uses what I believe are the key terms 'co-ordinated', 'optimally', 'lifecycles', and all for the purpose of achieving whatever it is our organisations decide they want to achieve. 'Sustainably' is also good, as long as we understand to mean more than environmentally sustainable: more like how to sustain our organisations, the business, value.

But then again my job is in some ways to 'sell' the concepts of PAS 55 around the world: I develop and deliver Asset Management training courses for AMCL and its JV Asset Management Academy, and most of the time what we teach is based on the UK Institute of Asset Management (IAM) formal syllabuses, which up until now naturally have the UK's PAS 55 as their basis.

It's a good time to reflect on what the key concepts of Asset Management really are. In January ISO 55000 series was published. The Asset Management Council has just revised and updated their own 'Fundamentals of Asset Management' course. And John Hardwick and John Lafraia's *Living Asset Management* book has now been published, taking a look at the subject from a cultural & people perspective.

ISO 55000

Those of us in AMCL with responsibility for updating both course material and assessment questions in line with ISO 55000 have come to an interim conclusion that it is not wildly different to PAS 55 – not enough to make a difference to the key concepts we teach and assess. This is in no way a criticism of ISO 55000; it would be strange if it didn't resemble the existing thinking in the countries that have most developed Asset Management, that is Australia, New Zealand, UK, and Canada.

One thing unfortunately that has not improved is its definition of Asset Management, which is now woolly, and not even focused on physical assets (so it claims):

Coordinated activities of an organisation to realise value from assets

I have no idea whether what's in ISO 55000 makes sense for assets that are not physical, and suspect we need to see what professionals of other disciplines make of it before we become too up ourselves. (They no doubt have their own standards for managing data, human assets, and so on.)

The loss of that idea of 'for the purpose of achieving the organisational strategic plan' from the definition – a concept that appears in many previous definitions from different sectors, not only PAS 55 – I don't really like. 'Value' is not very clear or helpful, and I think it is much sharper to accept as an asset manager that you are working for your organisation – state or private – and therefore for that organisation's objectives.

But when you go into more depth in the standard, you can interpret it as a shift of perspective, from Asset Management as practiced by asset managers to Asset Management as it appears to top management. (Penny is not convinced, and thinks 'value' is just asking for people to misread as meaning 'financial'.)

Top management want to realise value, financial and/or social, from its assets: that's what they should be about. Asset managers are all about delivering organisational objectives. As long as we all accept that the job of an asset manager is to manage assets to deliver the (value focused) goals top management decide, there's not too much confusion here. Asset managers need to continue to be driven by the company strategy and targets; or get into top management and change them.

IAM and AM Council

I was more struck by how differently in practice the syllabuses are for the IAM and the AM Council courses, based in turn on quite different basic 'models' of Asset Management.

Even if you have never seen it before, the IAM 'Conceptual Model' is fairly straightforward to describe and follow. As well as making visible what it believes is the driver of AM – the organisational strategic plan – it focuses on the two complementary halves of planning and delivery. You have to have both good planning and good deliver to deliver the right asset functionality at the right time and right cost.



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Now, as I say to my students... we've been doing delivery a long time, and it has its own professional disciplines, such as design and project management, that we don't need to repeat in an Asset Management course (or professional institution). The bit that is new is the co-ordinated lifecycle optimised decision-making, captured in an Asset Management Plan (or perhaps more realistically in a continuous asset planning process). That's the heart of good practice Asset Management.

But am I right?

Several times recently I have worked with companies who have, or seek PAS 55/ ISO 55000 accreditation... who have not included planning in their scope. Planning overall is something that happens somewhere else, if at all. I give them full credit, then, for being puzzled as to what AM is in practice. Technical problem-solving? Planned maintenance? Managing asset data??

The IAM conceptual model is essentially a functions model, with some process – Plan – Deliver the asset lifecycle – Review – at the high level.

In contrast, the AM Council has several key models, perhaps the most widely known being the 'Capability Delivery Model', or CDM. This is a much more detailed asset lifecycle diagram from demand and requirements, through asset design and acquisition, operations and maintenance, and continuous improvement. (We had mousemats, or maybe tablemats, of it when I worked in NSW RailCorp, so I certainly know it well.)

It's about how to specify, construct and maintain a reliable asset– 'an' asset. I do not mean the AM Council doesn't understand about systems; of course it does. But what the CDM model does not do is focus on co-ordinated planning of multiple assets which are at different stages in their lives. Indeed, it is almost impossible to alter it to do so, precisely because it's a lifecycle view of something, even if that something is very complex.

I believe its fundamental ground is reliability – all the things you need to manage through a lifecycle to make something deliver its functionality efficiently. This is of tremendous importance in many sectors, where some assets just cannot be allowed to fail in operation (think commercial airlines). And reliability engineering is one of the key streams that made up the development of Asset Management.

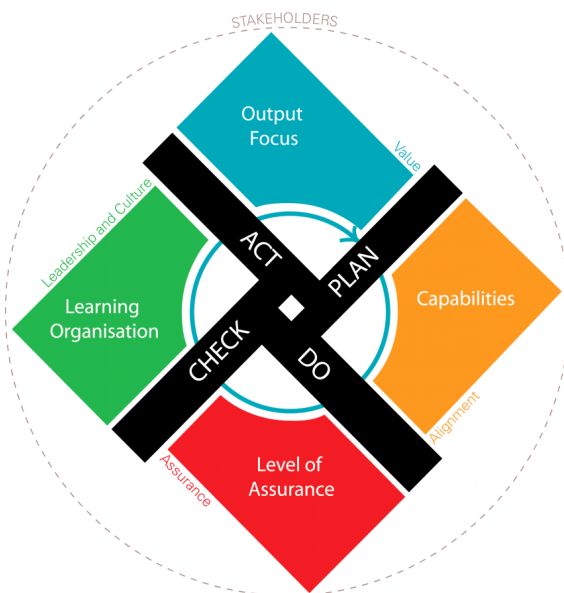
But it's still curious. Who invented the 'Asset Management Plan', anyway? (Australians?)

And as it happens my model for Asset Management in practice was Australian – the asset planning based processes (and excellent asset planning team) at RailCorp in Sydney. I was influenced from early AM days by the *International Infrastructure Management Manual*, with Asset Management **as** asset planning: co-ordinating, developing and producing the Asset Management Plan.

This surely makes me tend to downplay technical areas such as configuration management, or condition monitoring – while for many other people they are the very heart of Asset Management.

There are two other main models that the AM Council currently uses: one is a variant on 'line of sight'/ alignment, in line itself more or less with ISO 55000, and the other the four quadrant diagram below, which the AM Council uses in modified form as its logo.

This latter one is a little too abstract or ‘high chunk’ for me (I am definitely more ‘middle chunking’); but different people find very different diagrams speak to them. It also doesn’t focus on asset management planning, or co-ordination, and to me it does not map easily to functions. Is it just me, or is it odd that it doesn’t refer to assets at all, and therefore could be about any business discipline? I am interested how other people make use of it to explain and structure their asset management.



Living Asset Management

I, and many others in this field, have huge respect and admiration for John Hardwick, who is (I think) simply the best presenter (and I suspect possibly best implementer) on how to implement Asset Management. A book on the cultural aspects of Asset Management by John and co-author John LaFraia sounded just my kind of book.

If you were to choose one word to describe the appropriate culture, or attitude, for good Asset Management, what would it be? I run such an exercise with course participants, and it

is hard to pin down. In contrast, it’s much less hard to agree on what attitudes/ styles/ attributes makes a good operations manager, or what makes a good project manager.

A good asset manager, classes often conclude, needs to be knowledgeable, analytical, thoughtful, objective, take the long term view, and be able to co-ordinate across functions (and different kinds of people – like ops and project managers) and communicate or ‘sell’ upwards. Such a people spec is clearly unlikely to be easily fulfilled; analytical and thoughtful don’t often go with good communications; plenty of experience on the ground doesn’t always go with taking the long-term view.

Culturally, what are we most looking for in an asset planner? I think my answer is ‘not too attached to any one kind of solution’. (Which sounds N rather than S in Myers-Briggs, if you are familiar with that.) Penny suggested ‘questioning’ (ie not just doing what you’ve always done because you’ve always done it).

Interestingly, the one word that came through most strongly to me from John and John’s book wasn’t anything to do with any of the above: it was ‘discipline’. A lot of the book is on how to get people on the ground to do what they should do, reliably, intelligently, cheerfully.

Throughout the book they use one particular case study above all to illustrate managing culture: turning around the performance of an ageing power plant, with impressive results. This was squarely a reliability problem, a cultural challenge in getting people to care about performance.

Their focus I surmise comes from their experiences of the real challenge of doing good Asset Management. Perhaps in some organisations it’s not so hard to make good decisions, harder to get people all pulling together to implement the decisions. (I recall Peter Buckland of Hunter Water saying something a little similar – that after you’ve worked

out your smart maintenance optimisation and risk-based renewal processes, you will find that you have to worry about basic quality management, to ensure the plans are actually delivered correctly in practice.)

But I find my heart drifting back to the asset planners, and the cultural and communication challenges in herding cats, I mean co-ordinating across functions, few of whom are by function very interested in planning beyond the next year or month or week. And then communicating this effectively to top management and all stakeholders so they understand the implications of choices and actions.

I have heard it said recently – probably by Penny! – that doing good Asset Management requires above all the ability to see things from other people's perspectives. To walk in their shoes. That may be a cultural challenge of a rather different sort to quality and discipline.

Of course there is much more in John & John's book. I was interested to see how it made use of NLP, and in particular one of my favourite models called 'neurological levels'. If you don't already know about NLP, it's a whole collection of techniques for communication, control of your internal state, setting your intent on future objectives – practical psychology, in other words. It's something quite a few asset managers have taken up in different countries and sectors; you could almost identify a subcategory of AM influenced by NLP and allied communication techniques (there's a mini-network of us in the UK, for instance).

It's good to see something pitched so directly at the people issues around asset management, and I hope plenty of us engage and build on it.

Does the challenge differ by sector?

I wonder, now, at context. If what you need to do is essentially already decided – if you are in an industry where what you have to do is already well captured in standards – delivering effectively is going to be more about the details of implementing the lifecycle, and, yes, discipline.

If the major problem is that the standards are sub-optimal and take no account of lifecycle or co-ordination, or indeed line of sight from organisational priorities, on the other hand a culture of sticking to standards isn't necessarily going to help.

Perhaps, then it is just always going to look different if you work in defence than if you work in local councils? The former is bound to be vastly more organised through standards; the second overwhelmed by issues of co-ordination and optimisation of limited cash across radically different services. Some people have to worry above all about reliability; and the issue of optimisation across different assets is not their problem in practice.

So what *is* Asset Management? What do you think?

There are many models in existence.

What is your favourite model, diagram or definition that you use to structure and explain your Asset Management practice?



How can you justify Asset Management?

I have some sympathy with those who, defining asset management as 'transparent, accountable, evidence-based decision-making focussed on corporate objectives', feel that the case for asset management is self-evident and needs no justification. Some sympathy, but not much. You still need to prove that what you are proposing to do under the name of asset management really is 'transparent, accountable, evidence based' - and valuable for the organisation!

I have recently been tracking a very interesting discussion on Linked which began with these questions:

- What is the ROI on doing asset management?
- How can you prove to me that what I'm investing in the AM program is yielding returns?
- How can you quantify it for me?
- What are the different measures to track ROI?

This has generated a wide variety of responses

- Some correspondents cited literature research claiming cost reductions resulting from AM,
- One suggested measuring the amount of unplanned downtime, pre and post the AM initiative,
- One cautioned that decision makers may have shorter time horizons than asset managers,
- One suggested considering overall organisational gain rather than ROI on individual projects,
- But another disagreed, pointing out that a stronger case could be built if there were clear deliverables that corporate could buy into.
- Some focussed on the range of benefits that could be expected from good AM,
- Others looked at how they should be measured

At present no clear answers have been provided to the questions asked, although each of the correspondents raised relevant points.

Here I attempt to provide some clarity. I'd appreciate your response. Is this useful?

Q1: What is the ROI on asset management?

What does this question mean? When you consider that another way of expressing this is "What is the return on making transparent, accountable, evidence-based decisions informed by corporate objectives?" it is no wonder the discussants are having so much trouble. This really is a 'piece of string' question. For one thing it would depend on the current state of asset management excellence and exactly what was being proposed.

Clarifying meaning. One participant mentioned that we should first determine the 'gap' between what was needed and what is in existence. He had picked up the hope of the participants for a 'one size fits all' solution, a figure that they could take to their directors to justify any particular plan of action they had in mind. However, unless we know where we are starting and where we want to end up, this is asking for the ROI on a vague, undefined, entity - and this, of course, is impossible. Try asking the same question of IT, Value Management, Project Management, or any other function. Doesn't work, does it?

Recommendation 1 - do the gap analysis.

Q2: How can you prove to me that what I'm investing in the AM program is yielding returns?

Ex ante or Ex post? (forgive my 'economic speak' - this means do we wish to estimate the ROI in advance of action or to measure it after the event.

The CEO or CFO asking this question no doubt wants to know the answer to this question **BEFORE** he invests (i.e this is an 'ex ante' question). But such advance 'proof' is not possible. For anything! Actually what he wants is some assurance that he will not be wasting his money. You do, too. This is the function of the 'gap analysis' - identifying the gaps, evaluating them, prioritising them, proposing a range of solutions for which you have estimated the costs and assessing the risks associated with each.

However it takes research - and resources - to identify the gap. So consider a **two stage process**. First seek a limited budget for doing the research. The need for a gap analysis could be supported by problems already observed, costly mistakes already made, reference to the results being obtained by others, and indications of the areas where benefits could be made (see section * below for ideas of where you can source benefits). The results of the gap analysis then provides the justification for the asset management actions you wish to take.

For many, I realise, this seems like a whole heap of work and what they really want is to be given a budget first, and then to decide how to spend it. This is dangerous. (1) If you get your budget, you will then need to decide what to do. Either you do the first thing that comes to mind - and end up wasting organisational resources, or you do the gap analysis that you really need to do to ensure that the wastage doesn't occur. (2) If you do the gap analysis, you end up with is a list of other things to be done but your CFO or CEO is anticipating positive outcomes not a list of 'to dos'. So protect yourself - use the principles of transparency and accountability and make it clear what you need to do.

Recommendation 2: take a two stage approach and do a sound gap analysis first

Question 3: How can you quantify it for me?

This is the ex-post question, here we track actual results against those proposed at the time the asset management action was accepted. This is why it is important to take a two stage approach. The outcome from a gap analysis is a detailed, cost-benefit list of profitable actions that the organisation can undertake to improve its performance, or an assessment that asset management is so good that there are no improvements that can be cost effectively undertaken at the present moment. Admittedly the latter is unlikely, but should it occur, at least it should provide assurance to management that things are on the right track. The list is itself the outcome - and the proof.

At the second stage - carrying out individual projects - the clearer the proposed outcomes the easier is the tracking. The outcomes are the difference between the existing and the proposed condition. These must be quantifiable, although it may not always be possible, or necessary, to do this in dollar terms. Intermediate 'milestones' are helpful to ensure that you are on track.

Q: What do you track? A: Whatever it was that you used to argue your case to executive, whatever it was that you promised in order to get the budget. The better the gap analysis, that is the more detailed the argument and sensitivity analysis and the more detailed the justification of assumptions, the easier it will be to track performance because you will have more measures to hand. Did you say that your program would produce faster, cheaper, or more accurate results? Then you would need time, dollar and accuracy measures, including a reference benchmark. Often, to bolster a proposal, we have a tendency to promise what cannot be measured. If you feel there is a case for this, make it clear that these are additional expected benefits, but that your case does not rest on these benefits and that they will not be measured.

Recommendation 3: Don't promise what you can't measure.

Question 4: What are the different measures to track ROI

Return on investment is a financial measure. So you will need to turn your measures into dollar quantities. For example, if you have promised a faster turnaround of information - what is the dollar benefit of this? If you have promised more accurate information - what is the dollar benefit of this? Every promise needs to be turned into dollars if it is to figure in the ROI.

You may need the help of other sections of the organisation to help you to put a dollar figure on the benefits you propose. For example, if you believe that a certain change in procedures would improve the morale of the workforce, think of how you might measure this. It might be in terms of reduced labour turnover - how much would this benefit your organisation? - talk to your administration about the costs of hiring and the savings of reduced turnover.

Recommendation 4: Explore the financial consequences of all the changes you propose

CAUTION



Be careful what you ascribe to Asset Management

The principle is to **track and compare the total situation before and after the action**. One participant referred to a water authority that had reduced O&M costs by 25% over 5 years by implementing AM practices, including GIS systems, leak detection and a water main replacement program. To know what the **NET BENEFIT** was we would need to deduct five years' worth of the capital and ongoing costs of the GIS, leak detection and water main replacement. Similarly if you were projecting reduced annual losses in production due to unplanned machine downtime pre and post the asset management initiative. Savings in labor, OT, spares and inventories too can be measured in a similar way. Always **NET!**



Where can you look for sources of benefits from Asset Management?

Here are some suggestions provided by participants in the Linked in forum. *See what you think - are these correct? how many others can you add? Remember always to use NET benefits - and translate these benefits into dollar amounts for the ROI.*

NOTE: A discussion of the following areas and how they apply to your organisation may be sufficient to justify the resources for gap analysis

- A shift from reactive and time based maintenance to condition and predictive based maintenance where proven to have value
- Reduction of downtime together with the shifting of downtime to lower value periods. Greater value capture because operating times are expanded and focused on maximum value periods. Commercial availability not time based availability
- Smarter inventory holdings together with smarter clustering of work packages during overhauls and downtimes
- Stronger prioritisation of work to be carried out through determining critical plant items
- Greater consideration of ageing assets in terms of curtailment of maintenance prior to cessation of operations
- Invariably a more consistent approach to planning, investments, maintenance across a portfolio of assets. Usually a greater focus on asset reviews and lessons learned. Asset management can be used to drive best practice across a portfolio, reducing dependency on most dedicated etc.
- Greater assurance to investors, regulators and company executives with impact on investment approvals and share price
- Usually an improved focus on order timeframes for key components together with valuation of holding critical spares
- The point about investment horizons is very valid. Utility asset timeframes often do not immediately match those of shareholders /financial accountants with their discount rates and pay back periods. Here a focus on the reduction in potential failure and associated costs and lost income often proves eye opening for some.
- Proven asset management processes with demonstration of risk reduction and failure reduction can lead to savings in insurance premiums. . Demonstrating that you have a full understanding of your assets helps so many.