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STRATEGIC ASSET MANAGEMENT



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Zero Based Renewal

Introducing the first in a new occasional feature “Techniques to Try” and I invite you to contribute your ideas to this series. We start with something quite fundamental - Zero Based Renewal. pp 4-5

It may seem counter intuitive but just because an asset exists is not a reason to replace it when it fails. An asset end-of-life is your best, least cost, opportunity to change direction and you don't want to miss it. We look at Zero Based Renewal - what it is and how to do it with examples.



In *Coffee Thoughts*, we look at the question “Are humans assets?” p. 6.



“is Asset Management Still Fun” - some excellent reasons why the answer is YES. pp. 7-8



And yet, not everyone sees it this way. We look at why - and ask **you** what we, as an asset management community can do about it pp 9-10

Please consider - and enjoy!

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ZERO BASED RENEWAL

Just because you used to have it doesn't mean you still need it



“It is in the consideration of proposals put up by others that managers most often have to exercise creativeness. The uncreative manager examines a proposal on its own terms - he may question the solution proposed, but not the overall problem to which it offers a solution. The creative manager thinks creatively about the nature of the problem before reading the document, and formulates one or two elements which any solution must embody. He may then find that although the proposed solution is reasonable and internally consistent, a part of the problem has been ducked or overlooked. The uncreative mind can spot wrong answers, but it takes a creative mind to spot wrong questions.”

Anthony Jay Management and Machievelli, p. 97

Zero Based Renewal - what it is

Just as in zero based budgeting, the idea is to assume nothing, and to justify every cost by the benefits to be received. Most people I know hate zero based budgeting because it is such an effort. It is so much simpler to assume that what we have always done is still of value and that all we have to do is make a good case for the extras.

We also tend to think that it is easier to make a case for renewal than for a new asset. In actuality, it is harder! When we make a case for a new asset we look carefully at the costs and the benefits but when we are faced with renewal, we tend to assume that the benefits are there, particularly if the asset is still being used. We may, therefore, fail to observe changes to the scope of benefits to be achieved.

Renewal is the best and cheapest opportunity you will ever have to change direction. When an asset is due for renewal, its residual value is at its minimum. To discard it now means minimum asset wastage.

So how can you do zero based renewal - without the aggro?

As with everything, it helps to have a recognised procedure. Too often when asked why we are replacing something, the only answer we can come up with is “It is due”. Instead we need to ask:



What is the service we are providing here - and why?
Who are we providing the service to?
What are the options we have available?
Do the benefits exceed the costs?

In answering each of these, it can help to contrast the situation we are experiencing now with the situation that was experienced when the asset was initially constructed. What was in demand thirty, forty or fifty years ago is not necessarily in demand now. Populations change, styles change, desires change. This is well illustrated by the following example, which may be familiar to you, drawn from the Victorian Audit Commission Report, 1993

The replacement hospital

Consider the case of the Health Department that decided to co-locate the general and maternity hospitals and asked the Public Works Department to draw up the plans for moving the maternity hospital onto the new site. Public Works asked whether a demographic study had been done to examine the current needs of the State compared to the needs that had led to the present hospital. It hadn't. The study subsequently revealed that the birth rates had fallen radically from those that had existed when the hospital was commissioned and the ageing of the population also greatly reduced demand. Moreover other hospitals were now available to cater for maternity services. When all the factors had been taken into account, a new design was drawn up representing a hospital one quarter of the size and far more efficient.

The replacement country road

Or consider the case of a council road. When the road was initially constructed, it serviced a thriving agricultural sector and was the major conduit for farm produce to the port. In recent years, however, the agricultural sector has declined greatly and has been supplanted in the region by the growth of aqua culture instead. Do we replace and maintain the road to the standards that used to be needed or to what is required now? Or do we downgrade the road to meet the new, lower, demands now made on it?

The replacement power station

Or consider the case of a replacement power station. There was a time when generator and turbine design was changing so greatly that every few years a new design would be available that was not only more efficient and required less staff to maintain it but was also far cheaper. Naturally, in these conditions designers did not consider renewing ageing generators, they planned instead to use the new and latest designs. Eventually there came a time when improvements slowed down. Renewal of existing plant now started to make sense. However, conventional thinking was that it was always better to go for a new design. Sometimes what we know can be to our disadvantage!

ZBR is a challenge

Zero based renewal is dedicated to the proposition that it always pays to challenge accepted thinking. The larger the renewal, the more resources that need to be devoted to this exercise.

Two recommendations to make ZBR easier:

- (1) Give the task to someone new
- (2) Give yourselves enough time

And one to make ZBR more interesting:

- (3) Try your hand at scenario development.



1. Give the task to someone new

ZBR is a situation where 'what you know' is holding you back. To look at something in a completely new way is not easy, which is why inventors are so highly regarded. Therefore give the task to the people best suited to getting the task done - those who are not saddled with too much knowledge of the 'way things are done. (I could never have done the cost and timing renewal modelling of the SA water agency if I had started with as much knowledge as the water engineers with whom I worked. Nor could I have developed a new approach to costing if I had started with as much knowledge as the accountants there. Ironically, it is because I knew so little, that I was able to think of shorter and easier ways to do things.) So consider a ZBR project as a training task for a new recruit or several new recruits. And dismiss their findings out of hand at your own peril!

2. Give yourselves enough time!

You may recognise the truth in the following: I had been idly considering whether I would switch my water heater to solar, but I had not done the analysis to test cost effectiveness although some back of the envelope calculations looked promising. Now, Murphy being Murphy, my water heater chose to fail in the middle of winter and I was faced by a choice. I could either wait several weeks to install a solar heater or I could replace 'as is' within 24 hours. Not having a taste for cold showers in winter, I chose the latter - and so missed out on an ideal opportunity to make what turned out to have been a cost effective substitute - had I done the necessary work and forward planning. (note: knowing is not the same as doing) The morale is plan ahead. Don't wait until renewal is imminent. We now have the tools to forecast future renewal need. Instead of using these tools to put in our capital bids, we should use them to establish the maximum planning time to make improvements.

Note: In Victoria under the Multi year strategy, unless you give forward notice of the need for major capital expenditure that could be foreseen, forget about suddenly adding it at the last moment. A good incentive for forward planning but it means that option analysis has to happen even earlier.

(3) Scenario Planning. Consider the 'what ifs' (remember it is not what has happened over the last 40 years that is important, but what may happen over the next 40.

Have you successfully tackled Zero Based Renewal?

**Please share your ideas with others
Even if it was not quite successful, your experience can be valuable.
As an example of this, I share the following:**

Zero Based Renewal - How looking more broadly at a problem can improve the outcomes

As Policy Manager in the public works authority I was looking through a list of maintenance items about to be addressed and I noticed one for the replacement of a school boiler that had broken down some 18 months before. Sympathetically, I said to the Maintenance Supervisor: "You must have had a lot of complaints about that one - last winter was the most severe that we have had for over ten years" His answer rocked me. "No, not a one!" Curious, I contacted the school. What problems had they experienced over the past 18 months as a result of the failure of the boiler? None, really, was the answer. "Our problems are not in the winter, but in the summer time. On hot days we have to crowd everyone into the library, which is the only air conditioned room we have. We really could do with some of those in-window air conditioners in the classrooms."

A good opportunity to do some creative zero based renewal thinking! I gathered a small group consisting of an architect, a surveyor, an engineer and the maintenance supervisor and suggested to them that instead of replacing the boiler, which the school did not appear to want, let's consider what options we have. I took the group on a tour of the school and we spoke to the staff. The surveyor noted that a stand of trees to the side of the building minimised the winter chills, whilst the engineer quickly noted that the main reason why everyone was feeling so hot and stuffy in the classrooms was that all the windows were kept shut ('for safety reasons') so there was no ventilation. The architect suggested a few, simple modifications to retain safety but allow increased ventilation. This would, he said, account for most of the classrooms but there were a few that would receive the brunt of the summer sun and these could be shaded but would also benefit from air-conditioning. If we used our maintenance resources to do this, instead of replacing the boiler, the school's working environment would be greatly improved and the children and staff much happier.

Ideas are one thing, people are another!

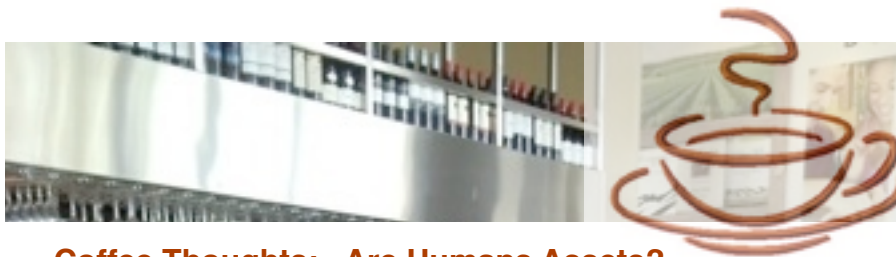
This, sadly, is not the end of the story. Feeling pleased with the creative contributions of the team, I wrote up a short report and asked my assistant if he wouldn't mind taking a few photographs of the school and boiler to illustrate the problem we had so effectively tackled. Thirty minutes later I had a phone call from him, saying it wasn't there. 'What do you mean it isn't, there, a school can't just disappear!' 'No, not the school, the boiler isn't here. The school tells me that the maintenance supervisor has removed it because the replacement is coming tomorrow!' This was the same maintenance supervisor who had been part of our team analysing the zero based renewal problem over the past 4-5 weeks, so I was absolutely floored. I called him in and asked him what on earth he was doing since the team had shown that the boiler was not needed and that the maintenance resources could be used more effectively for the school by dealing with the problems they experienced in the summer time.

"Oh", he said, "I thought that was just an academic exercise!"

Postscript:

It was only many years later that I realised the mistake I had made was to focus so closely on the task at hand that I had not seen the personal problem I had created for that supervisor - I had effectively undermined his authority, so he retaliated the only way he knew how - and undermined mine.

I also learned that if asset management is to be effective, it needs more than creative ideas - it also needs people who are comfortable with the idea of doing things differently from the way that they have been done in the past. Repeating what we have always done is just 'doing', it is not management.



Coffee Thoughts: Are Humans Assets?

I had an interesting email debate on this subject recently with a colleague who, frustrated with the work of his Human Resources section, wondered whether we could apply AM principles to Human Resources. Well, the short answer is yes, of course we can. But the longer - and, more interesting response - is another question: Should we?

Has anyone applied asset management principles to Human beings as assets?. They are also Physical assets

But not owned! And hopefully not controlled by the companies that employ them. (Both ownership and control are definitions of assets)

I have seen arguments about 'people being our greatest assets' but I think that this is denigrating people to the level of things. True, there are lots of similarities between the arguments we make for managing assets that will also apply to managing people. But I hope we never get to the stage of advocating euthanasia (asset disposal) for humans that are no longer economically viable.

If HR use the AM Model we will get better consistency for the management of People

Is this really true? Should not HR people have more finely calibrated tools for managing human resources? Do you mean consistency across human resources or consistency across all resources? And if it is the latter, what about the issues that you need to take into account because humans are not objects - issues such as instinct, human intuition, feelings and emotions, the need to be respected and appreciated. These aspects do not apply to objects but are very important for HR.

HR only give lip service to emotional intelligence, with the ever changing work force very few people are left with real experience to act intuitively when a problem arises. A good example is that HR are using Competency to box people in application jobs just as we would use machine capabilities

Maybe this is your answer: forcing people (or anything) into a model that does not fit, does neither them nor the model any good.



Is Asset Management Still Fun?

As you will know, I have been recently asking those on my Linked In History Project Forum whether, looking back, they still saw asset management as giving them as much fun and excitement as it did when they started.

Curiously, while he did not intend to answer this question, but rather to enter his own story in the History Project's "How I got started in AM" section, Michael Brendeli has given the best reason I can think of as why AM still excites me - and I hope it excites you.

Here is Michael's story:

My involvement and keen interest in asset management began in the second-half of 2008. I was a mechanical design engineer finishing up a long and enjoyable stint on the Sydney Desalination Project when I was asked to contribute to a project we (Sinclair Knight Merz) were undertaking to evolve the asset management strategy for a major urban water utility's critical infrastructure.

"The fun of complex decision-making from physical to the business effectiveness"

I was initially meant to work for about one month on the project as my knowledge of their corporate databases would prove useful for one aspect of the project, but once I became involved I found the asset management field entirely engrossing. This was a world of complex decision-making, dealing with everything from the physical properties of pipes and soils, to the regulatory environment of the utility, to the effectiveness of internal business processes and knowledge management systems. A world that requires you to see the big picture while understanding the intricacies of the minutiae. A world where on any given day I can be working with operators, maintenance crews, scientists, economists, planners, asset managers or general managers. I was hooked! I was able to expand my role on the project and so that original one month turned into a new career direction.

“a collaborative environment”

I have worked in asset management ever since and am currently completing a Masters of Science degree in Water Services Management at UNESCO-IHE in Delft, the Netherlands. This degree focuses on the integration of legal, economic, institutional, organisational and technical considerations for the successful provision of infrastructure services. I am currently undertaking my MSc Thesis, which I am using to research the nature and effectiveness of the collaborative environment for sharing and progressing (strategic) asset management within the Australian urban water sector.

“taking ownership of challenges, even relishing them, and sharing wisdom for the progression of the discipline”

The human factor of asset management strongly appeals to me. In the current era where we have available a multitude of software, tools, applications and models (which have their value), the indispensable nature of educated professionals with sharp minds cannot be forgotten. Indeed, I think that is one of the great strengths of the asset management community - it contains many talented individuals who take ownership of the challenges they face (perhaps even relish them) and willingly share their wisdom for the progression of the discipline. It is a community that makes me want to actively participate too.

“where you can enjoy debates at many levels”

I truly enjoy the many challenges present in asset management and the debates they spur at all different levels - qualitative versus quantitative analysis; prescriptive standards versus supportive guidelines; structural reform of utilities or the encouragement of voluntary alliances; maintenance or renewal; compliance versus innovation. I have come into the industry at a very interesting time and have been particularly fortunate to have had the guidance and encouragement of a very talented senior practitioner within my firm, as well as the support of my organisation. I can wholeheartedly endorse the value of mentorship on the development of a younger engineer.

“influencing decisions representing hundreds of millions of dollars”

If I sound overly excited by asset management, it is because I find working in asset management deeply satisfying. I value the fact that the work I do contributes to the sustainable provision of essential services and that, thanks to strategic asset management, decisions influencing hundreds of millions of dollars of (often public) spending can be made prudently.

I look forward to the challenges ahead!

Not Everyone, however, is finding AM exciting at the moment



Most of the responses on the website to the question “Is AM still fun” have been positive, but I have also had quite a number of emails from people who are prepared to respond privately in the negative. To preserve their anonymity but to present the ideas here for your consideration, I have summarised the main themes raised.

What can we do as a community to bring the fun back?

Grass roots development

Everyone finds the development stage of asset management fun. Why wouldn't they? At the development stage, everyone is a pioneer, ideas flow freely, passions are engaged. For the same reason, the development of ISO standards, or the creation of a new manual is fun. At this stage we work with those who are like us. There is a high level of co-operation and camaraderie.

The problems start when we move from development to acceptance

At this stage we begin to encounter opposition. At the beginning, though, opposition provides its own adrenalin rush. We find ourselves working hard to clarify what it is we wish to achieve, to explain why it is important, and to describe what needs to be done. We live in hope. Small successes are taken to be an indicator of greater successes to come later. Although we encounter opposition, we also encounter curiosity. However, at some stage, curiosity starts to diminish as those we wish to engage in dialogue develop their own ideas and definitions of what asset management is all about. Or others, perhaps more machiavellian, seeing the impetus that asset management is developing start to attach the words to different concepts that they wish to promote. Now our job is harder for we first have to disabuse people of wrong notions in order to supplant what we consider to be more correct notions in their place. However, these problems are those that any evangelist might expect to have to deal with.

Things get worse when asset management is seen as a way, not to improve outcomes, but as a way to control and regulate.

When bureaucrats who see asset management as a control device produce elaborate frameworks for compliance, the practitioner sees the whole field of asset management as becoming more and more complicated. The list of tasks that “ should “ be done grows and the interrelations between the various factors becomes more and more complex. The typical administrator in the smaller Councils finds himself or herself overwhelmed and defers the issue by engaging Consultants to write reports. Unfortunately for them the reports usually recommend another long list of tasks for staff to complete, so the Council is back to square one.

Acts intended to simplify do the reverse

To bring some order back from chaos, more guidelines and instructions are promulgated. Unfortunately, given that many report and guide authors tend to over-explain everything, this only adds to the confusion. At this stage we need people with good writing skills and a strong sense of what is really important to take the 300 page manuals and condense them into 25 pages of readable text. The text & writing style needs to be aligned with the environment

of the typical worker who has the responsibility for implementation. This means, of course, customisation. But councils and other organisations lack the resources; not only do they have budget restrictions but the people with these skills are scarce.

In desperation, front line workers and even middle managers look for simple, tried-and-true formats and templates.

Asset management at this stage is in danger of moving away from applying critical judgement to mindless application. As the subject is evolving constantly it leaves many workers in a state of confusion as they struggle to convert the vision into tangible actions. As soon as they think they have understood the currently applied processes, a new system comes along. This makes staff hesitant to invest time in AM for fear the effort could be wasted, as a different, better, system could be just around the corner.

These micro level problems are worsened by major - and continuous - waves of restructuring at the macro level.

Consider the water industry in Queensland, which has been subject to wave after wave of “reform”. First there was the separation of bulk water and distribution/retail businesses. While this is an objectively sensible move (reflecting the fact that the state is responsible for provision of water sources while the Councils have always been responsible for delivery of water services to the individual customer) it was sold politically as correcting the wrongs of decades of underinvestment by Councils in the water industry. The specific criticism was that no Council had invested in a new dam for decades and this was a reason why we were facing water shortages. The fact that the Councils were not allowed to invest in dams was never run in the press. Nevertheless, the concept of consolidation of the bulk agencies to allow more efficient distribution of bulk water is a good one.

Then the idea of a single distributor/retailer is changed to having 3 distribution businesses, one in Brisbane, one in the Sunshine Coast and one on the Gold Coast. This idea of comparative competition has worked very well in Victoria. But scarcely was the ink dry on this arrangement when the Government changed its mind yet again.

Is it surprising to find keen asset management minds becoming increasingly disillusioned and just plain exhausted trying to keep up?

Finally, the economic situation.

Even those who look as if they have everything - e.g. in the mining industry - are increasingly harried and concerned. As budgets tighten, and skilled resources can't be found, asset management (promising returns in the future) is sacrificed to economy moves (which promise short term results)

If you are depressed, you are not alone!

The question is: **What positive steps can we now take to address these issues?**

All suggestions welcome!

