396
July 28
2014

AMQ International's

STRATEGIC ASSET MANAGEMENT

Let's Not!

(getting down to tin tacks)

Our first instinctive moves may not be right. In this issue we challenge a number of such intuitive actions. In doing so, we ask the following questions:

When we are interested in creating jobs, why is it a good idea not to immediately assume we should build something? See **Jobs,** pp. 2 - 4

When we are presented with a problem, why is it a good idea not to just go with the first idea that occur to us, reasoning it is best to just get on with it? See **There are always options,** pp. 5 - 8

When we need to consider costs, why it is best not to assume that economists will necessarily get it right? see **What is the Cost?** pp, 9 - 10

This latter includes two mental challenges that you may well succeed at far better than economists. Try them!

Consider, but - above all - enjoy!

Penny

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

JOBS!

We need more jobs, let's build something! Let's not!

Let's look at the facts.

FACT: Out of every dollar spent in Australia, some proportion will go overseas in the form of imports. Some years ago, a government industrial economics report estimated that:

Maintenance generates **25%** **more employment** than house construction and from **50% to 100%** **more employment** than engineering construction.

Why this is so.
(1) Maintenance is highly labour intensive, therefore requires few imports
(2) House construction spending has a higher proportion of imports
(3) Engineering construction, with its specialised equipment and materials has an even higher proportion of imports.

FACT: Funding a new asset does not provide the funds for operating and maintaining it.

The media often imply - and we let them get away with it! - that provision of funds for a new capital project will ensure a flow of ongoing jobs to operate and maintain the new asset. However, anyone who has watched the 'Yes Minister' episode of the new hospital that has no medical staff - because they cannot be afforded - will realise the sadly laughable consequences of this assumption. The only jobs directly provided by funding a new capital asset are those that are incurred during the actual construction. And this has a low job:dollar ratio (see above).

FACT: A construction job is temporary; a maintenance job is ongoing

When the media talks about the number of 'jobs' that will be created by any given construction project, they are talking about temporary jobs. Some of the jobs may last only a few months.

FACT: Asset managers can create jobs!

By identifying those assets that have spare capacity, or the capacity to do more with minimum expenditure on repairs, renovation, adaptation, asset managers can expand the services provided by existing assets - and this expansion creates ongoing jobs with almost no import leakage - i.e. more 'bang for the buck' when it comes to job creation.

QUESTION: If up to 4 times as many jobs per dollar can be funded by spending on maintenance rather than new capital works, why do we continue to believe that new capital spending is the answer?

WE CAN CHANGE THIS - We can change this with asset managers, particularly with senior asset managers and even more so with those involved in policy and strategy, and with our associations. There are three key issues that need to be addressed.

Construction is Visible

A new hospital or road extension is highly visible. Passers-by can see it taking shape and see their tax dollars being invested. Pictures can be taken of it to promote the work of the relevant government. Maintenance on the contrary is largely invisible. And where visible, often not highly regarded.

Consequences: Often this lends itself to governments deciding to build something where there is a lot of unemployment. On the face of it this seems to be a very good humanitarian act. One of the major consequences may be illustrated by the situation in Tasmania just before I was advisor to the Minister of Construction. Most of the population in Tasmania is in the South, but the North had more unemployment, and probably still has. To provide employment, capital projects had been created for the North. There was not a high demand for the services that the capital projects could provide. Each time a new capital project was initiated it would help those in the North, but it would also attract labour (both employed and unemployed) from the South. So each time a capital project finished, the unemployed labour force in the North would be higher, and thus in need of more capital projects to provide jobs. it was a never ending escalator. And very expensive.

What can we do to counter this?

We need to make the benefits of maintenance, repair and renewal, more visible. This could be done by advertising the maintenance job creation impacts of these works in the media and importantly on billboards next to the works themselves. Perhaps billboards that state “Maintenance creates more jobs than construction, and more benefits for the community, at lower cost” and then details the number of jobs being created by this particular project. The more detail the better, eg X road sealing jobs, Y plumbing jobs, etc. Use dollars. Talk about the community benefits of better, smoother, roads, or healthier public housing. Promote the number of maintenance jobs provided by council in the council newsletter?

What else could you do?

Grants fund capital works, not maintenance

The ability of federal and state/provincial governments to fund grants to lower levels of government may be conditioned by constitutional, legislative or other rules. Or it may be conditioned by the desire to make their contributions more visible. (witness the requirement of the Federal Government for major billboards stating that this particular road section is being funded by Federal Highway funds.)

Consequences: A couple of years ago I was talking with the asset manager of a small council in Canada that was struggling to get his council to agree to a renewal provision of 0.5% per annum. He knew that his assets were wearing out at a much larger rate and this frustrated him but he explained that to increase the provision would have required impossibly large rate increases. How had the level of capital in this council built up to such a level that they could not now afford to sustain it? Quite simply, the capital had been grant funded by the province or by the federal government. The asset base was now so large that rates would have had to more than double to provide a sufficient renewal fund.

What can we do to counter this?

This is a problem affecting every council and many state government agencies. This funding method is unsustainable. What can be done? On an individual level, agencies can say "No thank you" to grants that are beyond their capacity to sustain. This is now starting to happen and shows increasing understanding of the consequences of this 'free money' - and greater wisdom. At the level of the funding agencies themselves they could require recipients to demonstrate a capacity to sustain the funded asset. There is also the option for leading asset management associations to argue a reasoned case, *with built-in safeguards* for the granting organisation, for grants to be extended for maintenance and renewal. This is not impossible. The 'Roads to Recovery' project was designed for just this purpose. It was, however, not monitored and many councils spent the money not on road recovery but on expanding the size of their road portfolios with the inevitable result that their initial levels of unsustainability were greatly increased.

Conflicting loyalties of Associations

Asset management has, for the most part, been taken up by associations that also have a great interest in new construction - the major engineering associations in the world, in the UK by RICS, the Royal Institute for Chartered Surveyors, and in Australia, the project management and construction associations. This presents them with an unenviable conflict of interest when it comes to promoting maintenance and renewal at the expense of new construction. Since more of their members benefit from new construction than benefit from maintenance, it is difficult for them to marshall the forces that could present an argument strong enough to counter the two major advantages of high visibility and contract simplicity that attach to current grant procedures.

What can be done? Ideas?

THERE ARE ALWAYS OPTIONS!

Let's just get on with it! Let's not!

When the early guidelines for PPPs were issued in Australia, South Australia was the last to produce its version (quite frankly the fact that we had to produce different versions for different States is a message of its own!). Anyway, I was on a speaking platform with the Minister for Energy who said to me proudly. "Have you seen our latest guidelines?" I responded with "Yes, but wouldn't you think that being the last cab off the rank, ours would be the best - instead of the worst?" At 9 am the following day I had an anxious phone call from the State Treasury wanting to come and speak with me. When we met I explained my concerns. The Guidelines which ostensibly were designed to get more involvement from the private sector to take advantage of their creativity stopped that creativity dead by specifying exactly what was required and how it was to be provided. I argued that if we really wanted creativity we had to give the private sector scope by specifying not the WHAT and the HOW but rather the DESIRED OUTCOMES. Instead of saying we wanted a filtration plant of a given size, we should be saying that we wanted to provide a certain quality of filtered water to x% of the population a minimum of y% of the time. The Treasury officials replied "That's too hard!" Too hard for us to say what we want?

Is it really so hard?

Participants in the design of ISO 55,000 obviously did not think so. That standard now requires that all asset management actions need to align with corporate objectives, i.e. services. Unless we are able to define just what service we are providing how can we comply? Our past practice of specifying the how without specifying the outcome is now obsolete.

In a recent issue of SAM (Issue 393, June 16, 2014) I outlined the technique of problem demarcation as developed by the Delft University of Technology in its MOOC on New Generation Infrastructures. Because it is critical to our success as asset managers, this is another way of approaching the same topic.

As an asset manager you need to think of yourself as a 'smart buyer' who can do three things:

1. Interpret the corporate/community desired outcomes
2. Specify Requirements, and
3. Monitor Outcomes

Here, I look at the first two: interpreting desired outcomes and specifying requirements

Let's try it in the form of a self evaluation quiz:

1. Interpreting Desired Outcomes

If asked WHAT outcomes your assets would you
(a) duck for cover
(b) ask 'which assets?' as a stalling device
(c) classifying your assets by groupings, give a plain language account of the outcomes provided

If asked who benefitted from the outcomes would you
(a) say 'everyone' and leave it at that
(b) be able to define customer or community subgroups and the type of benefits they received
(c) be able to talk about the analysis you have done to estimate the size of the groups, their demographic and geographic characteristics and their growth trends?

If asked HOW the outcomes were provided, would you
(a) say they are 'pretty good'
(b) talk about current in-house and outsourcing patterns
(c) discuss the nature of current service provision in the light of future options, new technologies, etc.

If asked WHEN the outcomes were provided, would you
(a) say 'when needed'
(b) elaborate by discussing which outcomes are available on a continuous 24 hour basis, which were 9-5, and which fluctuated in level of intensity
(c) discuss the justification for each decision nd he possibility of future changes

If asked HOW LONG these outcomes would be needed, would you
(a) say 'how would I know, I'm not clairvoyant'
(b) using demography studies predict continuing or changing needs
(c) add to option (b) the plans you have for recycling or quitting assets when needs change

If asked about the ESSENTIAL CHARACTERISTICS of your outcomes would you
(a) say 'what do you mean'
(b) discuss distinguishing features, e.g. security, health and safety, prestige, reliability, timeliness
(c) demonstrate your understanding of the relative importance at the current time of these characteristics for different customer groups

If asked what your outcomes COST to provide, would you
(a) say 'You'd better ask the accountant'
(b) provide the operations and maintenance costs as per the records

(c) give a per customer estimate of the full cost of service delivery (i.e. including capital costs - depreciation and opportunity cost) *NB. See p* in this issue for more on opportunity cost*

Finally, if asked are your assets giving your customers the outcomes they WANT, would you
(a) say 'well, we don't get too many complaints'
(b) speak of the functions that the asset must have in order to fulfil requirements
(c) provide evidence through well designed customer surveys, focus groups, etc, to show that customers have the same perception of the outcomes of the assets as you do

Interpreting Outcomes is about what your customers/community are GETTING, it is not about what you and your organisation are DOING. Consider this plea from an anonymous university staff member.

> "Don't give me trash collection, dusting, floor care and window washing, give me a place that uplifts and inspires me by its cleanliness.
> Don't give me plumbing repairs, electrical maintenance and carpentry service, give me the peace of mind that comes from knowing that everything works all the time.
> Don't give me lawn mowing, edging, planting and litter pick up, give me the serenity of enjoying a beautiful campus and the pride of showing it off to others.
> In short, don't give me maintenance services, give me the satisfaction of knowing that the university values me and my efforts enough to assure me a clean, safe, comfortable and beautiful place to practice my profession".

Reading the above, are YOU asking your clients, community the right questions to be sure of their satisfaction with what you are doing?

2. Specifying Requirements.

You are in a rail company and have determined some rail engines need replacement, do you
(a) specify replacement according to the existing design
(b) design a new model to replace the engines and then specify that design
(c) determine the standards and properties that the new engines require (including being operable within your existing portfolio and specify that the new engines meet these standards and properties

You are responsible for testing a major tender for new equipment, do you
(a) determine what types of equipment will meet your needs and limit the bidders to this range
(b) determine what the equipment will need to do and specify these as requirements
(c) determine the outcomes desired from the equipment and negotiate with the tenderers on separable lists of essentials and desirables

You are responsible for a major upgrading and different possibilities present themselves, do you

(a) set down a list of technical requirements and measurements and measure the options against this list
(b) seek input from your client as to the service requirements and measure the options against their list
(c) both, but discuss the technical requirements and their outmodes with the client to ensue that the appropriate choice is made

Needs change over time, do you

(a) specify to foreseen needs and leave tomorrow's problems till tomorow
(b) build in flexibility at the design and construction stage, even if it costs more
(c) calculate the probability of the flexibility adjustments being needed, the savings that would arise if they were and go ahead only if the probable adjusted savings exceed the costs

You are letting a contract to air-condition a building, do you

(a) specify the actual number of complete air changes required per hour
(b) specify the minimum number o air changes
(c) specify a low minimum number under different usage conditions but reward better than minimum performance

You are letting a contract to heat your building, do you

(a) specify the temperature range required
(b) specify the temperature range required but vary the range according to usage conditions
(c) specify the type of temperature control required for different usage conditions, provide estimates of usage and negotiate with tenderers for the optimal mix

When developing a project brief for a project that promises benefits considerably in excess of costs, do you

(a) take advantage of the situation by packaging with other desirable items that would not have merited inclusion on the basis of their own benefit to cost ratio
(b) avoid including other non-cost-justified elements but write down the estimate of benefits to increase the likelihood of the project, on completion, being seen as a success
(c) check that all items are properly cost-justified and state them as they are

When setting your criteria for whether the project is a success or not, do you

(a) avoid stating success criteria, reasoning that if the project can be determined by such criteria to be a success, it can equally be determined to be a failure
(b) state success criteria but do so vaguely and by implication, e.g. the hospital refurbishment project will 'increase satisfaction' or 'increase access for the disabled' without specifying how the success criteria are to be monitored
(c) state success criteria in quantifiable outcome terms - and even state the grounds on which the project will be determined to have failed

OK. How did you go? How many '4th' options did you create?

WHAT DOES IT COST?

Lets ask the economists! Let's not!

Ross Gittins, The Age, writes some brilliant columns about public infrastructure decision making, but this one, on April 10, 2014, really speaks to the danger of leaving important cost decisions to the economists alone. (and you can trust me, I'm an economist!)

Opportunity Cost is an important notion in economics and in public infrastructure decision making. Essentially it says *what are you missing out on by doing what you are doing? What is the cost of the next best option?*

Here is a test for you, taken from Ross' article.

> You've won a free ticket to see an Eric Clapton concert (which has no resale value). Bob Dylan is performing on the same night and is your next-best alternative activity. Tickets to see Dylan cost $40. On any given day, you'd be willing to pay up to $50 to see Dylan. Assume there are no other costs of seeing either performer.
>
> So what is the "opportunity cost" of seeing Clapton? Is it $0, $10, $40 or $50? Take your time (especially if you fancy yourself as an economist).
>
> Remember: The opportunity cost of a decision is the value (benefit) of the next-best alternative! Think about before you turn to the answer on the next page.

The critical point that Ross Gittins is making is that 80% of 200 top economists attending a professional conference **got the answer wrong!**

Here is another test for you, which economists also got wrong.

> Some years ago the SA Commission of Audit reported that the underlying rates of replacement - 'calculated as the proportion of replacement expenditure to the written down value of the fixed asset holdings' were 3% for land and buildings, 10.8% for plant and equipment, and 1.6% for infrastructure systems, making 3% over all. They reasoned that 'if this pattern of expenditure were to continue, the rate of replacement suggests an implicit life on average of 33 years (3% replacement each year) and on the basis of this they conclude that 'the replacement task facing the state government is considered to be significant but manageable'.

Can you spot the two logical errors? The answers are also over the page, but take a minute to try to figure it out for yourself because as asset managers you should know the area better than economists - and you are also the ones who have to suffer the consequences if they get it wrong.

Are you better than the economists? Here are the answers to the two puzzles on the previous page.

Opportunity Cost

The opportunity cost of a decision is the value (benefit) of the next-best alternative. **So the right answer is $10.** When you go to the Clapton concert you forgo the $50 of benefit you would have received from going to the Dylan concert. But that's the gross benefit . You also forgo the $40 of cost, so the net benefit you forgo is $10

If you didn't get it right, be consoled - remember that 80% of the top economists didn't either! Their answers were spread reasonably evenly over the wrong answers.

But opportunity cost is such an important element in our decision making that it pays to think very carefully about both the question and answer here.

Rates of Replacement

What were the two errors in the Audit Commission Report?

Error 1. The underlying rate of replacement needs to be calculated by relating replacement expenditure to TOTAL replacement value, and not to the Written Down Value.

> *Consequences of this error:* If the asset stock is, say, one third of the way through its life on average, which it probably was at the time the Audit Committee reported, then the current level of replacement expenditure should be related to the total replacement values which are 50% higher than the written down values given in the report. When this adjustment is made, it turns out that replacement at the current level of expenditure gives an implicit life not of 33 years, but of 50 years. To replace the assets over a 33 year span, which the committee considered OK, would mean increasing the rate of replacement expenditure by another 50%! Had the Audit Committee correctly calculated the figures they may not have been so confident in declaring the situation 'significant but manageable'.

Error 2. Predictions of the manageability of replacement cannot be based on averages, they need to take into account the age distribution of the assets. If, say, half the assets were due for replacement now and half in 100 years time, the average would say 2% replacement which may look very manageable, but the problem of dealing with the half of the portfolio needing immediate attention would constitute a major problem.

In addition,

Economists do not, in general, understand the piecemeal nature of infrastructure asset replacement and tend to treat infrastructure assets in the same way as they would treat commercial assets which are normally replaced completely at the end of their life rather than getting patched up and continuing on.

The message is: Do your own calculations and if they do not coincide with those of the economists - start asking lots of questions.