

378

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Learning from Failure



The film Apollo 13 popularised the aphorism 'Failure is not an option'. The truth, as subsequent flights has proven, is otherwise. Failure is *always* an option. However, not learning from failure shouldn't be.

Recently, I had a conversation with a Canadian Asset Manager who wished to create a province wide asset register of buildings so that space that was surplus to one department's need could be transferred to another in need, thus saving capital and maintenance expense. A worthy goal.

I remembered that South Australia had tried this many years ago, and it had failed. This does *not* mean that any such attempt now will also fail. However, it is worth looking at the earlier attempt as a learning example. It turns out that there are many lessons to be learnt for all from this. See "**AIS Success depends on more than data**" pp. 5-9

Also in this issue

Heaton's 4 Factors of Productivity - I try my hand at applying the factors to the "Best of SAM" volume. pp 2-3. Have you tried it yet?



A new selection is presented today, **Customising your AM approach**. pp 4-5 and about ten will be added to the website each week - so have a look and take your pick. What have we learnt on these topics in the last 15 years? Add your examples, counterfactuals and updates. Be part of the

action.

Asset Management does not need a business case! Ashley Bishop argues this in a 'Letter to the Editor'. p.10 Do you agree?

*Consider, enjoy - and get involved! The best learning occurs through action.
Penny*

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Applying Heaton's 4 Factors of Productivity

Existing or New Projects

Whereas Heaton developed his 4 factors to improve the performance of existing projects, as we explained in SAM 377, there is no reason that they cannot equally be used to monitor and improve the performance of new projects. I decided to give this a fly and use them to improve the performance of my new project "The Best of SAM" volume, using the experience of previous projects to guide my initial assessments.

The first task was to decide what constituted each of the 4 factors when applied to this project.

INPUTS.

Inputs for 'The Best of SAM' are: (1) all articles for SAM (and its forerunner, the Asset Management Quarterly) since 1994. (2) Commentary on selected articles from readers. (3) Editorial comment on the selections and themes addressed.

All articles since 1999 are on line where anyone can see them, but articles before that date (about 10%) are only available in hard copy, meaning work in scanning or copy typing to make them available. There may also be difficulties in getting the best updates and elaborations from readers. Combining both of these factors, I am giving INPUTS a starting value of 80.

What is your project, and the relevant inputs? (e.g. data, information, previous research, terms of reference?)

PROCESS.

The process is the selection of articles, making them available on the website, possibly as excerpts only; creating enough awareness to get good quality commentary; assessing the commentary; deciding how best to categorise and arrange the selection (e.g. by date, by theme, or by asset) and then writing the linking editorial so that the volume flows as a whole.

The constraint is to have it ready, if at all possible, by April 1, 2014. This is a major undertaking and must be carried out alongside other responsibilities (as for all the projects that you are likely to undertake, few of us have the luxury of one sole project). Experience says that other things will crop up all the time, so my starting value here is 70 and even that I think is generous. (Note that for this project, INPUTS and PROCESS are iterative, as the articles selected will impact the commentary received.)

What is the process for your project? (Data and information selection, analysis, perhaps research and interviewing others?)

OUTPUT.



The output will be the book itself and the associated publishing process. Questions need to be resolved, such as who shall be the publisher and what time deadlines and other things will be required. Dealing with unknown others raises the stakes, so I have given this a starting value of 60.

What is your output? A recommendation for action? Who has to be involved before you can consider the recommendation ready for submission?

FOLLOW UP.

The job doesn't stop with the production of the book. The next step is to ensure it reaches the widest possible audience of interested people. This is a major communication task and perhaps the hardest element of the lot. I have assigned this a starting value of 50.

What is your follow up? If you have made a proposal for acceptance by the board or council, you may think that your job is done, but if you want to ensure that it is a success (so that the next recommendation you make will have an easier passage) you need to think of who else has to know, understand, and support it.

INITIAL PRODUCTIVITY VALUE

So my initial measure is 80 x 70 x 60 x 50 or a rather miserable **16.8**. Clearly I am going to have to figure out a way to improve these factors.

HAVE A COFFEE!

The above assessments were carried out at my favourite coffee shop by the lake. Twenty minutes in the sunshine has told me where I need to put effort to improve my performance. With a starting level of only 16.8, there is much improvement to be made.

YOU!

Why don't you choose your project, then head on out to your coffee shop to determine what, for you, constitutes INPUTS, PROCESS, OUTPUT, and FOLLOW UP, and what each of these depends on, then sketch out your starting values and performance measure. The next step is figuring out how to improve it. Once you start to focus on this task, I am sure that you will find many ways to improve your overall productivity.

Alternatively, if you want to suggest ways I can improve my factors of productivity - your generosity will be much appreciated!

I hope to be able to report improvement in the next issue.



NEW SELECTIONS

To give everyone the maximum opportunity to find a topic of interest and get involved, I will be uploading 6-10 selections each week, with short descriptions to enable you to select the topics that you would like to contribute to.

Just go to Downloads on www.amqi.com and choose “Best of SAM” to find the complete articles - they are all short!

This issue's 'Best Of' Selection

With the imminent launch of ISO 55000 it seems apposite to remind asset managers that 'one size does not fit all'. Here is an early recognition of this and how to handle it. Have you taken these issues into account in your AM planning? Tell us about it and you could win our monthly prize and be featured in the Best of SAM.

Individualising AM Guidelines

Ed: The NSW TAM (Total Asset Management) Guidelines, issued February 1993) were the first AM guidelines produced in Australia. They were designed for use by State Government Departments and were introduced with full training courses and the process was backed up by changes in Treasury budgeting procedures. Here Bruce Taylor argues that general statewide planning guidelines need to be customised for individual departmental use.

How do you recognise the appropriate asset planning solution for your organisation?

It depends on the complexity, stability, and diversity of your asset holdings. For example, an agency with a significant and dynamic portfolio should establish a comprehensive asset planning framework to keep maintenance in sync with portfolio movements.

On the other hand, developing a sophisticated planning framework for an agency occupying a single building is a waste of resources. Here the agency only needs to address operations and maintenance since there is limited scope for capital investment and disinvestment.

It is important to ask what are the most critical mistakes that you can make? If demand is dynamic, then an agency may be liable to community criticism if it fails to predict and cater for community demands and constructs assets in the wrong place, at the wrong time or chooses assets that inadequately cater for emerging services or technology. Where demand is stable or declining, resources may be wasted if existing buildings suitable for refurbishment are not recognised in lieu of acquisition, or if inappropriate maintenance is undertaken on buildings which are to be disposed of.

Six key factors point the way to choosing an appropriate planning approach.

It is the random interaction of these factors that complicates the application of TAM to an agency, or site, or building. While the factors do not point to a unique application for each case, they can point to a close approximation.

DEMAND MOVEMENT This factor reflects the influence of changes in demand. A single building, or even a single site will have little leeway to react to continual demand changes. However, an agency with a large portfolio must institute a suitable demand monitoring and controlling mechanism as part of its business planning processes.

PORTFOLIO The number and location of assets within the portfolio will have an influence on the establishment of TAM throughout an agency. An agency with a single building is in control of its own management systems. Agencies with a large portfolio will use TAM to disseminate a uniform approach to planning throughout a regional office structure.

SERVICE COMPLEXITY This factor reflects the range and type of service offered by an agency. A wide range of sophisticated services in one or a few buildings may indicate complex capital works planning. A wide range of sophisticated services in an agency may indicate the need for a comprehensive asset planning framework.

CURRENT PROJECTS The existence of major capital works in hand, is an indicator of the need for care during the establishment of TAM. The transitional stages may be complicated by planning for the new projects.

SERVICES SUPPORT In many cases, the performance of an asset may be critical to delivery of the service. If the asset breaks down, the service stops (e.g. electricity supply to an operating theatre). If the roof blows off a school, it may still be possible to hold lessons in the playground. This factor reflects the asset management required to ensure a given level of performance.

FUNCTIONS DELIVERY This factor is distinguished from Services Support to allow recognition of the importance, in the delivery of some services, of efficient operation of the asset. The factor relates to the extent to which the asset itself delivers the service. Efficient operation is a significant component of management of a water treatment works but is a relatively low priority in the management of a school, where the asset contributes little more than shelter.

In brief, the facility is mission critical if reliability is critical to service delivery (e.g. hospital operating theatre or state rail infrastructure) and, where reliability is key, heavy emphasis needs to be given to the Maintenance Plan.

Where the major characteristic is dynamic demand (housing, government office accommodation); with multi-site portfolio (housing, health) and multiple complex services (health) and/or where there are major acquisitions/ refurbishments in process, then there needs to be a heavy emphasis on services planning and related asset acquisition planning.

Where the facility is a component of function delivery (e.g. water treatment, water supply, sewerage disposal) the operations management plan is key.

Each of these plans can range from complex to simple depending on the organisation. The right asset planning consists of the right choices of emphasis, detail and complexity.



AIS Success depends on more than data

I was talking recently with an asset manager at the provincial level in Canada who told me that he wished to develop an asset register that would provide information to enable the transfer of property from departments that no longer had need for the resources to those that did. Such an outcome would clearly be in the interests of the province, saving both capital and maintenance funds.

I recalled an attempt to do this in South Australia - and why it failed. That doesn't mean that such a proposal would fail this time around, many years later and in a different locality, but it suggests it would be worth paying attention to why it failed in South Australia and what needs to be done to prevent such failure in Canada, or indeed anywhere.

We tried it and it didn't work!

Many give up when they find something has been tried and didn't work. That is foolish. The situation is never the same. So it is important to find out WHY the original failed and then to see whether you can do it differently. It turns out that there are more lessons to be learnt from the failed exercise in this story than the one above and they have wide application for all asset managers. (Note: the answer to my Canadian friend's inquiry is in the last few paragraphs.)

Here is the story

In 1976 the Department of Housing and Construction's asset register was extremely basic, just as most were then (many amounted to little more than an inventory check list, mostly of small value items that could be stolen or mislaid). It was just a listing of each asset indicating region. Later a 2 digit code was added to indicate user. The main function of the system at the time was to allocate expenditures. Asset numbers were allocated sequentially and gave no indication of the nature of the asset. An asset could, for example, cover a complex of buildings at one extreme or a single portable classroom at the other. There was no indication of where the asset was physically located nor of its type of construction. In other words, it was really basic.

In 1981 the asset system was seen to be in need of updating so it could:

1. Play a major role in providing the information necessary to prepare a maintenance budget related to the actual work which needs to be done in the coming year.
2. Record the magnitude and timing of those future maintenance/replacement liabilities which are automatically incurred whenever a new asset is acquired.
3. Periodically produce a list of properties requiring inspection to determine what maintenance was needed.
4. Report the actual cost of maintaining individual assets compared with their value, as a guide to implementing a consistent asset replacement policy.
5. Act as a location register for moveable assets

6. Report comparative costs for maintaining similar properties/ systems etc. in different districts or Hospital Maintenance Units.
7. Contain data concerning physical attributes of the asset, type of construction, etc. to assist in assessing the performance of different designs and materials.
8. Report all the above information for assets as a whole, but also allow analysis at least by the following categories: mechanical systems, electrical systems, site-work, building work
9. Include provision for potential interfacing with other departmental systems of asset recording, e.g. the Education Department Asset Register, LOTS system, etc. ultimately to become a model for a comprehensive South Australian Asset Register.

The objectives above are clearly concerned with establishing **the asset information system as an asset maintenance and management tool**. This is also reflected in the expected benefits:

- A. More realistic budgeting of maintenance costs
- B. Tighter control over maintenance costs
- C. A programme of maintenance work prioritised according to real need
- D. A realistic policy for asset replacement which should reduce overall expenditure in the long term.
- E. Better knowledge by designers of the performance of materials and systems thus assisting the Department to design and specify more reliable buildings for the future
- F. A useful and more comprehensive data base of government assets that would allow more efficient and effective allocation.

Why this exercise must be considered a failure

Over two million dollars (1985 dollars!) were spent on this project but 5 years later there was considerable doubt over its future. This was not surprising considering that only ONE of the nine objectives was fully achieved (and another two partially so) and not a single one of the benefits was achieved. Why not?

Incomplete data sets The main reason was that despite intentions to set it up for managing maintenance costs, there was no cost data, apart from replacement costs for the entire building; no age data, apart from the initial construction date, and no life cycle data. How could these elements have been overlooked? *The first thing to note is that this was very early in our history of asset management and it is unlikely that this would happen today.*

Maintenance needs were overridden The other reason is that the Housing and Construction department was responsible for maintenance of schools and the Schools facility managers who were engaged on the project only had interest in the facilities data. They were better organised and their facilities needs ended up trumping the maintenance needs. *A similar problem can operate today when the needs of the IT department dominate the needs of the information users.*

Operational urgencies over shadowed maintenance planning priorities The Department itself knew something was wrong but they didn't know what. A review identified the following:

1. Significant time was involved in the validation process
2. There was slow turnaround in client requests
3. Clients had no participation in setting priorities for requirements resulting in processing delays
4. There was a general lack of understanding as to what the AIS could provide
5. No information was available as to maintenance and operating costs
6. The provision of drawings to clients was very time consuming and changes took place only when time permitted.

You will note that of these six problems, only ONE refers to maintenance. The others are all facilities related and related to demands by a major client, the Education Department for use in its capacity studies or to enable it to do facility reviews. Facilities Review data, in particular floor and site plans of school buildings but also fire safety installations, ended up being the most significant output of the AIS, although they were stated as an objective or an intended benefit, which supports my presumption that the engineering maintenance requirements were overshadowed by the more dominant facility management participants.

Analysis

I have taken the trouble to list the objectives, expected benefits and problems, because just about anybody who has been involved with developing or using asset registers will probably recognise most of them.

Some things don't apply today. Today, of course, with almost 20 more years experience we will do things differently. For one thing, we will likely not be using an old centralised government mainframe, on its last legs, kept together by bandaids, and for which the department had to pay an exorbitant 'opening' fee each time it wanted to access it, which had a lot to do with the problems experienced.

Others do. Day to day 'operational' issues so overwhelmed the Department that they failed to notice the more serious issues: namely that almost none of their objectives and completely none of their benefits were being achieved! *That the 'urgent' drives out the 'important' is still a valid proposition today.*

WHAT WE CAN LEARN FROM THIS FAILURE

There are three important lessons concerning data, people and context.

Data by itself is passive, getting the desired outcomes depends on having the right data, people who have the ability and an incentive to use it, and an institutional framework that makes its use possible. In the event, this Asset Register failed on all three.

Let us examine this and see why.

The first - data - we have already looked at. Despite having a wealth of physical data, (it listed details for 26 different types of toilet blocks in schools!) it was missing the complementary financial data. Required life cycle data was absent. In the list of objectives only one - to act as a location register for moveable assets - did not require financial or life cycle data and that was the only objective that was fully met.

The second - people - affected the outcomes in two ways. One we have looked at, which is the dominance of facility requirements in the development of an ostensibly maintenance based asset register. The other is the presence, or in this case, the absence of decision makers able and willing to use the data.

The third - organisational context Surprisingly this is often overlooked, but can stop data usage and improvements dead in their tracks.

Consider the expected benefits.

While it is unclear what was meant by 'more realistic' budgeting, the first three clearly relate to frustrations felt within the department at being unable to do the maintenance that was needed. From one perspective this resulted from 'insufficient funds' or 'inappropriate distribution of funds' and from another perspective (depending sometimes whether you were in the maintenance section or finance) from 'inefficient work practices' or 'insufficient control over funds'. 'Everybody' could see that 'better' maintenance budgeting and cost control was a 'good thing' *but who was going to actively seek out the information from the AIS to make sure the benefit was achieved?* Had there been anyone wanting to do this, the limitations of the system - particularly its absence of any recorded cost data - would have been discovered much earlier. Benefit D, a realistic policy for asset replacement, equally falls over for having no one whose role required the development of asset replacement policy! In Benefit E it had been expected that the wealth of physical detail in the asset register would enable designers to plan additions or modifications without having to go out to the site. However, if the sun was shining, it was a far more attractive proposition to take a car and drive out to the site. All it required for this to be justified was just one identified error in the data system! Benefit E also assumed that the prime objective of a designer is to design a cost effective building - rather than, say, an interesting, or award winning piece of architecture.

Now we come to Benefit F - and the conversation that began this story. Benefit F - "A useful and more comprehensive data base of Government assets" was desired for precisely the same purposes as the Asset Manager in Canada was aiming at - to transfer surplus space from one department to another in need.

This aim fell over for lack of people to make it happen AND an organisational context that made it impossible. No department with surplus property was ever eager to admit that this was the case and hand it back to the Treasury, for it knew that if their demands should increase in future, getting expansionary funds would be very difficult, so the temptation was to hang on to everything they had. There was no organisational mechanism - such as financial reimbursement - to encourage release of this surplus space, nor any legislation that would force the issue.

The procedure for departments that had need of extra space was to make the case to their Minister, which was usually done in terms of proposing a specially designed facility to cope with the new or expanded need. When approval was given, these departments had no incentive to settle for hand-me-down space - and again, there was no organisational means to make it happen.

To summarise:

Data - have you all the elements you need to make a decision?

People - is there a specific person/role whose job it is to use that information?

Context - Does the organisational situation permit, encourage, or ensure the use of the data? Or does it do the reverse?

We concentrate only on the first of these three to our disadvantage.

LETTER TO THE EDITOR

Ashley Bishop argues that Asset Management needs no business case. Do you agree?

Hi Penny,

I read with interest the business case article in SAM376 (30SEP13) however as I work in the local government sector I have to wonder why does there has to be a business case for Asset Management?

If you are an organisation with multiple millions of dollars of assets built at public expense, like it or not you are accountable for them! It probably isn't so much about the benefits and gains as about doing the right thing by the people who have paid for these assets, the public. Not everything we do is a cost benefit! Some things are value judgements and others are responsibilities. Asset management is a responsibility, good asset management is a professional responsibility and choosing the best tools is just good practice.

I would say there is no need for a business case because asset management is business practice and should be inherent in every manager/department role. It's not something you do if you want to, you must do and you have the responsibility to do it right. It's not about cost savings its about accountability, these along with any economic benefits and better planning are consequences of doing (good) asset management not the aim, if anything they are a measure of good practice in AM. It is very likely that asset management probably won't save you any money but it will manage things to their best outcome, responsibly and with due diligence. You may need a business case for the methodology you use but not the function

It's time that organisations realised that to manage correctly you need to have asset management; it's a function of the business not a departmental role (although it may need a champion to drive it!). If you have to justify this then the cause is already lost.

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