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Strategic Asset Management

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Changing Asset Portfolios – Changing Rules?

Contributors To this Issue

Thanks to

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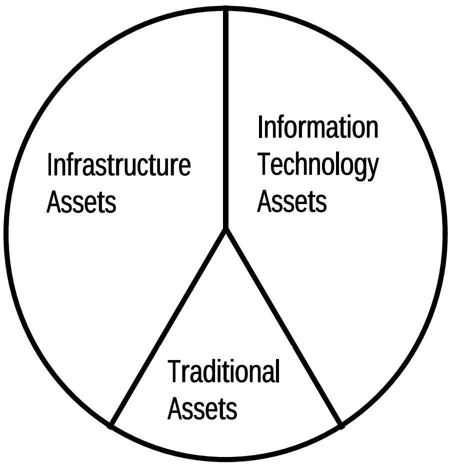

No, this is not a peace symbol. It is the portfolio composition that large portfolios are tending towards today—dominated by long-living and renewable infrastructure on the one side and dynamic, rapidly changing information technology on the other. Traditional assets—the assets the current accounting and management rules were written for - are being squeezed out. It is argued here that the characteristics of the new dominant assets mean that it is time for a rethink on the rules.

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Characteristics of Traditional, Infrastructure, and Information Technology Assets

Traditional Assets	Infrastructure Assets	Information Technology Assets
Relatively short lived and the useful lives can be predicted reasonably well	Long lived and the useful lives can NOT be reasonably predicted	Short lived and useful lives can be reasonably well predicted (ie soon!)
Each is relatively independent of the other, in the sense that the loss of one asset or element does not seriously diminish the usefulness of the others.	Each element is intra-dependent. It is a 'system asset"	Each element is intra-dependent. It is a 'system asset'
Each asset is small in value	Large value	Large value
They are numerous so that the law of large numbers and 'average' economic lives is quite appropriate since while we can expect that some will need to be replaced earlier than the class average, this will be compensated for by those that last longer.	Each system asset is unique and few in number in the portfolio. (Law of large numbers and averaging does not apply) *The system is rarely replaced rather it is renewed*	Each system asset is unique and few in number in the portfolio (Law of large numbers and averaging does not apply) **When an information system is replaced, it is generally totally replaced, and there is a high probability that this will be within 5-7 years (if not sooner!) But not only the system is changed but management procedures tend to get changed with it. Thus replacement of an information system has far wider cost implications (and benefit implications) than simply the system itself.**
When replaced we expect that they will be replaced by something reasonably like the existing asset (perhaps a bit better because of design changes, but doing pretty much the same thing.)	***When individual elements are replaced* we expect that they will be replaced by something reasonably like the existing asset (perhaps a bit better because of design changes, but doing pretty much the same thing.)**	
In Summary, **we know** **WHEN it will be replaced & WHAT it will be replaced with.**	In Summary **We know** **WHAT will replace it** **but we don't know WHEN**	In Summary **We know when (ie soon!)** ***But we don't know WHAT***

Current asset recording, valuation, depreciation and planning rules tend to be related to traditional assets, which are generally small in value, numerous and replaceable by similar assets. NOT ONE of these characteristics applies to Infrastructure Assets or Information Technology Assets. Gradually we are coming to grips with the information needs of managing infrastructure assets and relevant recording techniques (eg depreciation) are being developed, but more is needed, and much more is needed for managing Information technology *as an asset*.

Selecting the Tool 'for the job' also means selecting the tool 'for the asset". And these issues will be dealt with in our current series. Your contributions are most welcome.

A 'sleeper' in this regard is data. Your asset data is an asset in itself (so is any other data held in the organisation) – but it is hardly ever valued, often not maintained, and generally not managed. We would not think of treating other investments as cavalierly as we do data.

Selecting the Right Tool for the Job: ASSET REGISTERS

Different tasks require different ways of recording information about assets and one should not think that just because one has an 'asset register' that therefore it can do all jobs. It generally cannot.

The Capabilities of Systems vary widely, so use these examples as generic types for asking questions of relevance about the systems that are in use in your organisation.

Accounting based fixed asset packages

These are generally designed to generate written down values for balance sheet support. They are often based on broad asset categories and used for depreciation and insurance purposes within the financial arm of the organisation. May be maintained in terms of historic costs.

To watch for: coding numbers may not easily allow modifications, enhancements and extensions to assets to be regarded as part of the original asset, instead they may be recorded as separate assets. It may be difficult to identify a retired asset. Doesn't lend itself to attaching maintenance histories.

Asset tracking systems

These systems are designed to track project costs during the construction of new or enhanced assets. Costs are however *project* rather than *asset* based so the information does not lend itself to asset planning. These also do not adapt well to attaching maintenance history.

To watch for: There may be no easy linkage between assets and their modification. Anything of a 'program' nature such as utilisation or maintenance will be difficult to capture in these systems.

Facility Systems

These systems are designed for technical and operational requirements. They are capable of holding a lot of information on an asset from geographical location, physical attributes, condition, etc.

To watch for: These systems are often 'live', that is they update information on assets constantly. This is invaluable for operational asset management. However it can be disastrous for strategic asset management. When only live data is kept analysis of trends over time is not possible. To use these live systems for analysis it is necessary to take a 'snapshot' at regular periods of time and keep the information separately.

Geographical Information Systems

These systems are like facility systems in that the systems are live for operational purposes and often do not lend themselves to the maintenance of any kind of history. However, at least one has the capacity to maintain a history of valuations.

To watch for: Where capacity for maintaining history is available it may not be used if the control of the data base is in the hands of operational managers for they do not need it for their own work.

Strategic questions include questions such as:

- Is the condition of the asset/portfolio improving, declining, or remaining stable over fime?
- What condition will the portfolio be in 5 years time if re-investment is maintained at current levels/increased/reduced?

It is worth seeing whether your systems can provide this kind of information. Many can't. This does not make them poor systems. It just means that, as with other tools, asset registers are not necessarily 'multi-purpose' and forcing a system to do work it was never intended to do can result in it performing neither its original or the new task very well.

PROJECTING YOUR CASH FLOWS

Making the right investment decision is not only a matter of getting the discount rate 'right' (see Issues 55 and 56); it is also a matter of getting the cash flow projections right. Here are some simple steps to take.

1. Choosing the baseline

Estimation of the cash flows attributable to a project necessarily involves a set of comparisons: for each future period, the cash flows expected to occur if the project goes ahead must be compared with what they would be if the project were not undertaken. This means that some assumption must be made about what would happen if the project did not go ahead. The most convenient, and probably the most common, assumption is that the status quo would prevail – that current levels of production, costs and revenues would simply continue unchanged.

But this assumption may not be realistic, especially where the project involves new technology. The fact that Company A has decided against investing in a certain technology cannot prevent its competitors from doing so, with consequential effects on the revenues, market share and profit margins of Company A. This may lead to what has been called a 'disinvestment spiral': deferred investment leading to reduced profitability, which then further reduces the incentive to invest.

This is equally applicable to government departments that may consider themselves monopolies. Costs may increase and revenues fall in the absence of the project and this must be taken into account in the baseline. If not, many a viable project will be missed.

2. Costs of implementation

This is an area where cash flow estimates are in danger of being biased in favour of, rather than against, a new technology project. Costs of developing new operating procedures and software, and costs of re-training personnel, are quite likely to be underestimated. The 'settling-down' period of new technology is likely to be plagued by unanticipated disruptions, equipment breakdown, maintenance and repair problems, and scheduling and co-ordination difficulties, all lading to lower-than-expected productivity not only for the new project but for the entire agency. Settling in time may be estimated in months rather than weeks. Without sufficient allowance for the costs of implementation not only *this* project – but all of your other projects too – are at risk.

3. Intangible benefits

After the analysis has been done, and ranges have been developed around the costs and revenues to indicate the 'most likely' 'optimistic' and 'pessimistic' outcomes, there will be those intangible benefits that are real but not easily quantifiable. If the project passes without consideration of these intangibles, fine. But suppose that an extra $100,000 a year over the life of the project would lift its rate of return over the hurdle rate. A judgement would then need to be made as to whether the intangible benefits (eg greater flexibility, shorter lead times, enhanced learning capacity, etc) would be worth at least $100,000 a year to the company. If so, the project passes. If not, it doesn't.

This Information Age:

TIME FOR A DATA STOCKTAKE

Clean up your data before you consider data storage.

"Tired of the chaos and confusion in my workshop I bought a new storage cabinet to clean things up. However by the time I had re-arranged

- Broken items
- Superceded items
- Surplus items (bought because I couldn't find the originals)
- Items that never worked in the first place and I don't know why I bought them, and
- Items I never wanted but had been 'gifted' on me, etc

- not only did I not need the new storage, I freed up half of my existing storage!"

Does this sound familiar? It should! Think of your data or asset information system as a storage system, which, in fact, it is. Many a time dissatisfaction with the existing system leads to the desire to purchase a new one – only to find that the real problem lay not (or *not only*) in the system but in the clutter. An information stocktake will identify

data no longer collected and no longer used – can be discarded
data still collected but no longer used - collection can be stopped!
data not used now (but could be) – for archiving
data used now but is incomplete or unreliable - needs attention
and then there is the good stuff!

With the clutter out of the way, you will find it easier to identify what data you need but have not got.

Stephen Howe of Boroondara Council recently engaged in such a stock take exercise and here he shares some of his methods and findings.

Data Sources and Attributes

A "data source" for an asset class is simply the number of distinct locations that contain information about the asset. These are mainly electronic (databases, application software etc) but also include hardcopy systems.

"Attributes" are the different types of data we like to record about an asset….physical, financial, historical, political etc . Thus roads may have 10 different data sources, and 25 different attributes we want/need to record.

Stephen comments:
I asked for audit responses on both, as council needed the macro (data sources) and micro (attributes) level for analysis and decision-making.

"It was Interesting to note that when asked before the audit how many asset data sources we had, people advised me of awareness of 27. When we did the audit we found 403! "

Stephen developed a couple of indices that would help him measure the current condition of his data. See over the page.

Data Indices

1. "Current Data Quality" (CDQ)

= Completeness x Accuracy.

This describes the quality of the data *currently available and which is intended to be used*. Individual assets (i.e. a single road block) may be completely and accurately recorded for all attributes, but this index refers to the asset class *as a whole,* and is generally based on the audit responses on the *data sources, not the responses on individual attributes*.

Stephen comments: you could base it on attributes if you wanted to…its just more work. The whole should be the sum of the parts, so I did not bother…especially as the figures on accuracy/completeness were "guesstimates" made by the current custodians. I suppose you could confirm guesstimates by sampled analyses – which we intended to do but ran out of time for.

Also, the CDQ index related only to the datasets identified for "Cleansing and Use"- those identified for Deletion (will not use) and Archiving (probably won't use but retained "just in case") *were ignored* in calculating the figure – the rationale being that they will not contribute to the future data, therefore should not be used to report on the status quo/needs and thus affect chosen strategies. It is good to identify them for action (archiving/deletion), but that is all.

2. "Overall Data Status" ODS

= CDQ x (Proportion of required attributes *currently recorded*).

This gives an indication of the extent to which all desired data, at the quality required, has been achieved. For example, an CDQ of 95% might indicate that the data *currently available* is very good, but if it only represents 40% of the data *needed*, the Overall Data Status (ODS) is 0.95 x 40% = 38%! i.e. there is a 62% required improvement *yet to be achieved*.

Stephen comments: In some cases the ODS may be overly pessimistic - some attribute data are identified as *needed* but "not currently recorded" according to the audit. They may in fact be recorded elsewhere within the organisation (such as the Financial System Asset Register, Property system etc. i.e. information held by other directorates).

In other words, the *ODS measures the shortfall in usable data* but does not "apportion the blame" to either the current custodians or the organisation-wide problems caused by a lack of integrated corporate systems. It is likely that the majority of the "data shortfall" would be attributable to the current custodians systems, historical practices and lack of understanding as to what data they actually need .

Overall Findings

When we did the analysis on the information we collected we found that, as to be expected, data quality varied from asset class to asset class, but across the board there was about 3% to be deleted (ie useless), 26% to be "archived as is" (ie not sure if we might need to refer to it in the future so can't be deleted but also not definitely required for live use in the future) and the rest "to be cleaned up and used" The first two are easy, the latter is hard to do.

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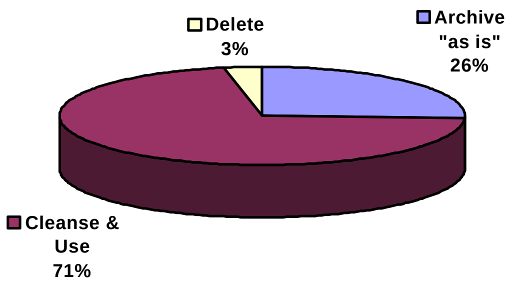

Next Issue: Data Stock-Take: What Information Should Be Collected and Why?

Do You Want to Write for SAM?

The ideal SAM article is short, punchy and carries an important action message. There is a technique you can apply.

In the last few weeks I have had 4-5 inquiries from potential authors. SAM is a great way to send an important asset management message to those who are ready to listen and your article will strike a responsive chord with readers if you follow the following simple SAM presentation rules.

General Requirements for SAM articles

1. They must have an "action message"

You must be able to say what you expect the reader who takes your message on board will be able to do differently as a result. It might be that an idea that they should take on board, or a way of planning or performing better. But it must be something and you must be able to say precisely what.

That message should be incorporated in your first paragraph. Even better if this action message has a 'hook', ie is related to something that is particularly interesting them at this time. *For illustration the action messages in this issue are in the first paragraph/s and are italicised.*

2. They must be interesting and reasonably short

Otherwise people won't read them. Somewhere between 500 and 1000 words is a good length.

3. They must have some meat on the bones.

The "action message" is the 'bones', what you do with that action message is the 'meat'. For example it might be an illustrated reason why your message is so important *(e.g. the lead article in this issue does this).* (You could give an anecdote or short case study where an agency has ignored the message and has had bad outcomes, and another where they have taken the message on board and had good outcomes.) This makes a very powerful article that readers will long remember.

Or you could take your message and then spend the rest of the article showing readers 'how' they can take the message and make it work in their organisation. This, too makes a very powerful article, and one that readers find especially useful.

4. Illustrations

Not essential but are nice. Simple schematics (but not complex ones); graphs, charts, etc are useful. Cartoons are absolutely wonderful if they are apposite.

5. No Advertising

SAM does not advertise. You can refer to a particular brand name of service, service provider or software by way of illustrating your point but the purpose (the 'action message') of the article cannot be to advertise.

Articles should be emailed to **<info@amqi.com>** Feel free to seek advice on your topic.

HOW SPECIFICATIONS LIVE FOREVER. MARK II

A couple of years ago we printed the following story about the origin of the width of the US Standard Gauge railway line. (Issue5, p.39 - "How Specifications live forever") Stuart Mathews has sent an interesting follow up.

The US Standard railroad gauge (the distance between the rails) is 4 feet, 8.5 inches. That is an exceedingly odd number. Why was that gauge used? Because that is the way they built them in England, and the US railroads were built by English expatriates. Why did the English build them like that? Because the first rail lines were built by the same people who built the pre-railroad tramways, and that's the gauge they used.

Why did 'they' use that gauge? Because the people who built the tramways used the same jigs and tools that they used for building wagons, which used that wheel spacing. Okay! Why did the wagons use that odd wheel spacing? Well, if they tried to use any other spacing the wagons would break on some of the old, long distance roads because that's the spacing of the old wheel ruts.

So, who built these old rutted roads? The first long distance roads in Europe were built by Imperial Rome for the benefit of their legions. The roads have been used ever since.

And the ruts? The initial ruts, which everyone else had to match for fear of destroying their wagons, were first made by Roman war chariots. Since the chariots were made for or by Imperial Rome they were all alike in the matter of wheel spacing.

Thus we have the answer to the original question. The United States Standard railroad gauge of 4 feet 8.5 inches derives from the original specifications for an Imperial Roman army war chariot. Specs and bureaucracies live forever. So, next time you are handed a specification and wonder what horse's ass came up with it, you may be exactly right.

Because the Imperial Roman chariots were made just wide enough to accommodate the back-ends of two war horses.

From the Internet – source unknown.

Stuart's Contribution

When we see a space shuttle sitting on it's launching pad, there are two booster rockets attached to the side of the main fuel tank. These are solid rocket boosters, or SRB's. The SRB's are made by Thiokol at their factory in Utah. The engineers who designed the SRB's might have preferred to make them a bit fatter, but the SRB's had to be shipped by train from the factory to the launch site. The railroad line from the factory had to run through a tunnel in the mountains. The tunnel is slightly wider than the railroad track, and the railroad track is about as wide as two horses' rumps. So, a major design feature of what is, arguably, the worlds most advanced transportation system was determined over two thousand years ago by the width of a horse's ass!