

# 352

AMQ  
International's

# STRATEGIC ASSET MANAGEMENT



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## Advancing Asset Management

In many disciplines, for example medicine, science, or even literature, advancements in knowledge are mostly through research at universities or large commercial institutions. The practitioner usually expects to be a recipient of these advances, not a generator of them.

### **We are different!**

Asset management is an applied discipline and advances tend to come from practical experience in the field rather than academia. In a recent forum discussion on Linked In showed that, whilst everyone considered academic research essential, no-one was actually able to list any particular piece of academic research that had influenced them, or had influenced asset management in general. (See **"The role of academic research in Asset Management"** - pages 2-3)

Moreover unlike, say, medical research, there seems to be no great advantage in being a large institution, private or public, when it comes to AM developments. (See **"The (dis) Advantages of Scale"** page 6)

Instead there seems to be almost unlimited opportunity for individuals, either as individuals working in their own organisations, or as voluntary groups, to make advances that others may adopt (or adapt). In this issue I introduce a number of ways in which this is already happening and how it may be accelerated. (See **"Ladder of Collaboration"**, page 4 and **"The Vector of Activity"** page 5)

Finally, because so few seem to know how it happened, and because it is a great example of the points being made here, I would like to look at the origins of the IIMM (See **"Origins of the IIMM, pages 7-10"**)

The ultimate message is that **EVERYONE** has the opportunity to lead a break-through!

*So, as always, enjoy - and be inspired to 'Advance AM Fair'!*

*Penny*

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## The Role of Academic Research in Asset Management

Over the last few weeks I have been running a fascinating open discussion on the History Forum Linked In Site on the following topic:

More and more universities are now teaching - and researching - AM. **How influential do you believe this has been in the development of AM practice in recent years?** Are there particular pieces of research that have influenced you? If so, feel free to recommend them to others here. Are there particular topics you would like to see more academic research into? If you are a researcher, how would you like to see your work put into practice? (note: the focus was on management not on technical developments in say maintenance, reliability or construction techniques.)

### WHO BENEFITS FROM ACADEMIC RESEARCH?

Answer: the researchers themselves.

There was much general support for **the idea of** Academic Research yet examples of research that had proved valuable to others were largely absent. *Where AM research was shown to be of value it was in the learning that the researchers themselves gained*, as illustrated by the following:

“As a former academic who had been running post graduate programs in project management and system dynamics and now taken up a ‘post retirement’ position as an Asset Manager for a rural local government shire, I confess, with humility that I knew nothing about the real issues of asset management until I started working in the field. The academic world I inhabited was aeons away from the needs of local government asset managers.”

However, he went on to say that he was ‘now applying years of research in system dynamics modelling to the mundane area of communicating the dynamic relationship between maintenance and rehabilitation expenditure, asset condition over time and client satisfaction’.

I have supervised 4 PhD and 1 Masters Student and examined 2 other PhD theses in asset management. From my own experience, the major benefit of the research was the understanding it gave the student. Such research should be seen as learning, rather than research per se. (That said, the same may also be true of research carried out outside of academia, although such research (by associations or organisations) will generally be by groups of people and so the chance of having the ideas spread and taken up by others may be greater.)

### HOW RELEVANT IS ACADEMIC RESEARCH?

One commented that at a recent International Asset Management Conference he spoke to several academic researchers who were doing projects in this area but were not even aware of the work done outside the 'published academic papers' area. Two of these were looking at issues that have long been solved in Australia & NZ outside academia but within the Professional Associations banner. Neither researcher was even aware of the Australian & NZ involvement in this area.

### “Hybrid” Academic Institutions (Real World Association + Academia)

The same commenter added that “This was the case in the International Water Industry also back in the early 2000's. Every country was reinventing the wheel and doing research into issues like ' the decay of cast iron water mains' etc. In this area alone we identified over 35 studies being done, often driven by one single organisation ( Water Business) in that country. In 2004 the Global Water Research Group was formed from over 15 countries to better co-ordinate, reduce duplication and optimise the return on these efforts. Now each year the professionals representing these global water businesses, and regulators all get together to identify issues that will impact on improving levels of service and reducing the real / true cost of service in all areas of process, data and knowledge, governance etc. etc. A global steering committee manages each research project and the results are available to all members.

### Collaboration between Real World Organisations & Academia

Some saw hope in collaboration between real world organisations (who had the problems and the data) and academics (who have the skills and time to look into issues in depth).

However, several rather serious hurdles to applying this in practice;

- 1) Academics pay more attention to other academics than to practitioners because of the need for academic citations. In effect, this means that you cannot research something unless it has already been researched! (Amplifying this, is the reluctance of some supervisors to take on students who are doing work in an area that is not one of their own specialities.)
- 2) Academic research takes place within disciplines - e.g. engineering, accounting, etc. This does not mean it is impossible for interdisciplinary work (I have had an engineering student, enrolled in an accounting discipline, whose thesis was concerned with political decision making! ) but this kind of blending of fields of study is not normal, nor easy.
- 3) Academic institutions are rated by the number of papers that their members publish in “A” grade listed journals. All of these journals are discipline based, so even if a multi-disciplinary study was produced, it would be difficult to get it published where it really counts for the institution. So the opportunity for research dissemination of academic asset management papers would be limited.

**This discussion is ongoing - take part in it!**

## LADDER OF COLLABORATION

**Question: If 'academic research' is not going to be a panacea for advancement in Asset Management, where else should we be looking? Answer: Us!** We have already started, as I will show, so we only need to continue to move up and out. The higher we rise on the ladder of collaboration, and the further out we move on the vector of activity, the greater the opportunities for AM advancement

### The Ladder of Collaboration answers the question: Who



**5. COLLABORATION**

Collaboration is about working together as a team, building on each other's work, proposing and assessing new creative ideas in a open and respectful manner. Collaboration is about the common goal not the individual goals of its members. Very much a case of 'the whole being greater than the parts'. Examples in AM? Open book alliances between private and public sectors? Others?

**4. COOPERATION**

A voluntary arrangement in which two or more entities engage in a mutually beneficial exchange instead of competing. In simple terms it combines coordination and resource sharing (of business resources not just information - e.g. funding, training, workspace. Although a common goal is typical, degrees of attachment to the goal can differ. Cooperation falls short of collaboration because they do not necessarily enhance each other's capabilities or share risks and rewards. In AM an example might be the joint IIMM between NZ and Australia.

**3. CO-ORDINATION**

More formal and complex than networking, coordination means synchronisation and integration of activities, responsibilities and control to ensure the most efficient use of resources to achieve a specified objective. Some action must be taken and information is shared for mutual benefit and to achieve a common goal. In AM, an example could be road opening groups that coordinate road openings between councils and utilities. Best when all can contribute.

**2. NETWORKING**

Networking is the exchange of information or services among individuals, groups or institutions. It is informal and means communicating with others who have interests similar to ours. We can network anywhere but conferences are a key place. We can discover new ideas, business opportunities or career development possibilities. Networking is a noncommittal activity and thus not true collaboration - but a step towards it.

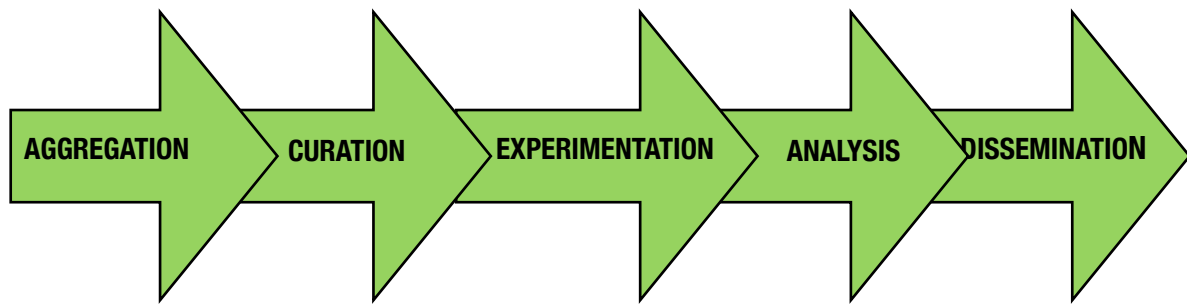
**1. RESOURCE SHARING**

Resource sharing occurs at different stages of collaboration but does not qualify as collaboration itself. It takes place when we offer another party knowledge or information or the use of equipment. The recipient may gain but for the giver there is only a 'warm glow'. There is no shared goal, no teamwork and there is no enhancement of the capability of both parties. The IPWEA's Asset Mates is a good example of resource sharing in AM.

with?

Now for the 'What' of research activity we turn to the Vector of Activity

## THE VECTOR OF ACTIVITY



### AGGREGATION AND CURATION

**Aggregation** is the collecting of asset management (in our case) ideas, opinions, experience, etc into a whole. The collection may be sorted into sub-groups according to type (e.g. by asset or theme). Example: online forums. IPWEA's "Asset Mates" is a good example of a well used aggregation.

**Curation** means to select, organise and look after the items (a collection or exhibition). The focus is on 'selection' which means choosing some items, and not choosing others. It requires a curator with specialist knowledge. Museums and art galleries use curation. So does "Strategic Asset Management"



### EXPERIMENTATION

Good experimentation means keeping records and setting off the results of the experiment against a control group. Clearly this is seldom a possibility for any management regime, and certainly not asset management, where the number of possibly varying factors is very large. However, we can take an 'experimental approach'. Every change, every consultancy commission, is an opportunity for learning. It is such a waste that we seldom take these opportunities.



### ANALYSIS

From good records (of what was done, why, and with what results) we can look back and analyse. Consultants who tackle many projects of a similar nature are in an excellent position here.



### DISSEMINATION

Writing up the results in an honest fashion and spreading the word is how we improve. In the early days of asset management, we would get the truth at conference presentations. But it was not long before the PR team started to vet our papers and truth and honesty were the first casualties. We could benefit from taking a more scientific, warts'n'all approach to dissemination. Until we do, we are holding back the advance of asset management.

**Summary:** We advance by first collecting ideas, then sorting and sifting them according to clear criteria, then by filling in gaps with experimentation, analysing the whole - and then presenting our ideas to be tested and challenged by our peers.



## THE (dis) ADVANTAGES OF SCALE

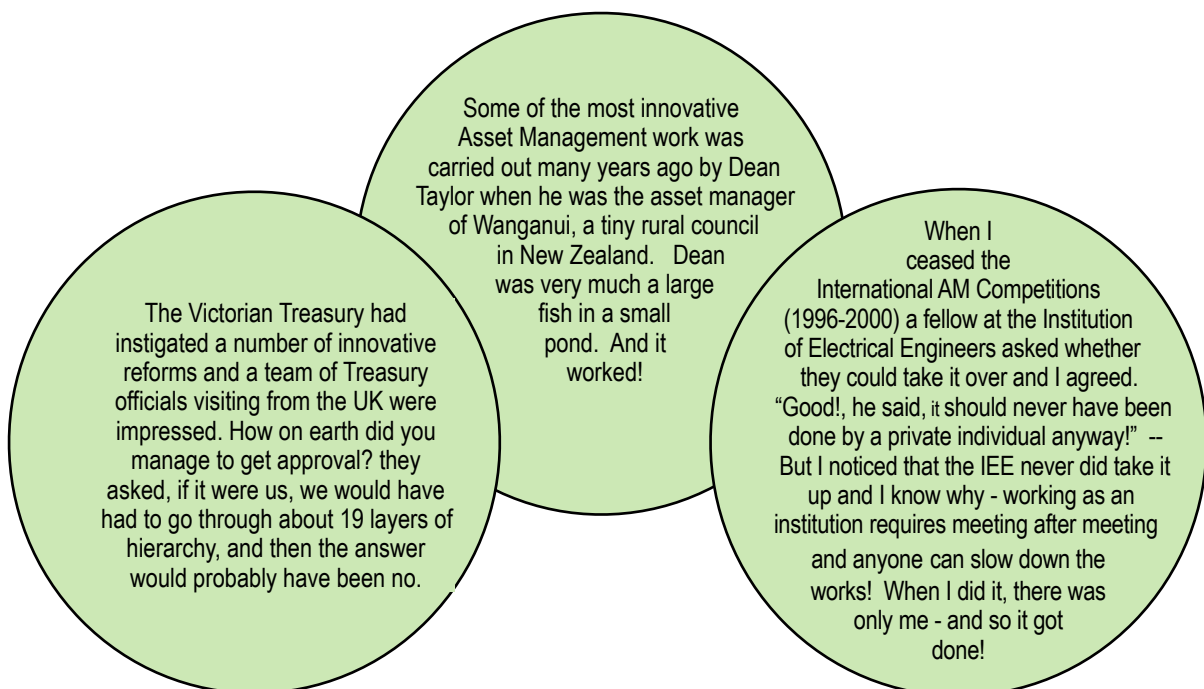
We used to think that it was an advantage to be big. For some organisations, it still is. Big Pharmaceutical companies, for example, are able to do research that smaller organisations would not be able to, they can protect their findings with patents, and charge much for their eventual discoveries.

However, for asset management, the reverse is true.

Changing an asset management approach is a major change management exercise and for a large organisation it is very much like changing direction on the Queen Mary. Smaller organisations have an advantage in that they are more nimble and have fewer hierarchical levels to navigate (see the examples below). This is why when large companies wish to become more innovative, they look to segregating sections of their companies to get the advantages of smallness!

It is also why companies wanting innovative solutions to their problems look for the smaller consulting companies. A large company may have the advantage of a wide range of experience to call upon. However it is not easy to manage this array of experience as any knowledge management person can tell you.

The good news is that YOU can initiate and develop AM advances wherever you are! You do not have to be a major sized player. For making change, it is often better to be a big fish in a small pond!



## The Origins of the IIMM

It seems almost everybody knows of the IIMM (the International Infrastructure Management Manual) yet few seem to know its origins. So here is the story of how it started, about 20 years ago.

The **Dramatis Personae** of our story (in order of their introduction) are

**Roger Byrne**, engineer, consultant with GHD (and later its AM leader)

**Enthusiastic asset managers in Australian councils, particularly in Victoria**

**Penny Burns**, economist, strategist and director of AMQ International

**The ALGEA (now IPWEA)** (Association of Local Government Engineers of Australia - now the IPWEA, the Institute of Public Works Engineering, Australia)

**Wayne Cameron**, accountant and Acting Auditor General in New Zealand

**Worley-GHD**, a joint venture between GHD and Worley Engineering to develop asset management.

**Tony Wilson, Brian Davey and enthusiastic asset managers in New Zealand councils**

**ALGENZ (now Ingenium)**, the association of local government engineers of New Zealand)

## The story



It all started with Roger Byrne and a group of enthusiastic asset managers in Local Government, particularly in Victoria. Roger had, for a number of years prior to 1992 been producing helpful GHD Guidance manuals on a large variety of AM related topics. When the first Australian exposure draft on accrual accounting was issued in 1989 and Roger was quick to see the opportunities that the valuation and recording of asset condition in the public books of account presented for leveraging better asset management.

**1992** Roger asked if I would help him turn his guidance manuals into a book for asset managers, which would have been fun had time permitted but we were both far too busy and it was not long before it became clear that it was not going to happen.

**1993** So in 1993, Roger presented an idea to the ALGEA to use his content to produce a manual for local government engineers in asset management. The ALGEA (the Association of Local Government Engineers of Australia) became the IPWEA (the Institute of Public Works Engineers of Australia) in 1999

### **The Australian National Asset Management Manual (1994)**

**1994** An early draft showed the content was really good, however the project team was struggling with ways to present clearly both the rationale for actions and details of the actions themselves and to make sure that beginners had a simple way in, but were encouraged to go on to more advanced stages. The document was becoming rather unwieldy as these things tend to do and the steering committee was wavering. I suggested some relatively easy fixes - allocating information on use of tools to a general 'tool box' at the back, an executive level introduction at the front and avoiding duplication by presenting the basic information in each section along with the advanced information next to it but distinguished with a light coloured background so that it could be skipped over on first reading by beginners. The steering committee liked this (they particularly liked the idea of a 'tool box' although this was changed in later work to "Asset Management Techniques") and so the first *Australian National Asset Management Manual* was produced in 1994.

### **Meanwhile, around 1993, two things happened in New Zealand**



1. Roger took his asset management ideas, along with his experience with local government and water utilities, to New Zealand. GHD combined with Worley, a New Zealand engineering consultancy firm to create Worley-GHD to develop AM consulting in New Zealand. A National Asset Management Steering committee was created in New Zealand with Tony Wilson and Bryan Davies and, later, they were joined by Warwick Busch, Tony Urquhart (now in the USA) and others.
2. In May 1993, I presented a paper at the National Accountants in Government Conference in Hobart, in which I introduced the idea of 'condition based depreciation' - fundamentally a means of measuring the cost of making good wear and tear and sustaining infrastructure assets, using an evidence based approach through well thought out AM Plans. The NZ deputy Auditor General Wayne Cameron was in the audience and liked the idea. He saw it as a solution to a particular problem he was facing. Accrual accounting in New Zealand had meant that councils had had to grapple not only with valuation but also with depreciation. Local councils had been arguing with the AG against depreciating their infrastructure assets because, they said, since they were constantly renewing their infrastructure assets anyway to depreciate as well would be double counting. He was sympathetic to this argument but wanted to be reassured that the assets really were being sustained.

The following year, 1994, Wayne Cameron became Acting Controller and Auditor General. Recognising that well developed AM plans would provide him the assurance he needed, he indicated that councils would be allowed to adopt the condition based depreciation approach as an alternative to straight line depreciation if supported by good asset management plans, and many adopted it.

### **The stage was now set.**

In this environment Roger's ideas were warmly received, the NAMS NZ committee were enthusiastic and efficient and, taking the Australian National Asset Management Manual as their springboard, they created their own New Zealand version.

### **The New Zealand Infrastructure Asset Management Manual (1996).**

**1996** The New Zealand manual differed from the Australian version in that it had a wealth of asset data, and more tools, including degradation curves, generated by a large number of local government working groups.

Although many asset managers today believe that the New Zealand Auditor General mandated asset management in New Zealand at that time, this is not true - a formal requirement for asset management only came many years later. What he did do was perhaps even more important. he instigated compliance audits, based on the 1996 manual and the training programs that NAMS NZ had put in place.

He did not prescribe the form which asset management plans were to take, preferring to take a 'let a thousand blossoms bloom' approach. He explained to me that the first set of asset management plans fell into three groups, the good, the mediocre and the poor. He figured that the good councils would be competing amongst themselves to be the best and that this would provide the information and examples that would help the mediocre improve. 'And the poor?' I asked, to which the reply was that in every sphere there were always the 'basket cases' but it would be inadvisable to limit the ingenuity of the best for the sake of propping up the worst.

Thus asset management got off to a very good start, with much support from the Auditor General (and his deputy Kevin Brady who later became Auditor General in his own right) The Auditor General in New Zealand was also the head of local government giving him a double influence.

**1998** In 1998, it seemed like a good idea to merge the two manuals, with different country appendices for those elements that were peculiar to each jurisdiction (e.g. legislation, accounting standards, etc.) At this stage, i no longer know who first initiated this idea and perhaps it doesn't much matter. The New Zealand NAMS group volunteered to project manage it and have remained project managers for every update since.

## **2000** The first International Infrastructure Management Manual was produced in 2000.

**It was, and is, a manual for and by local government.** However it has found wide acceptance at all levels of government and around the world.

It is sometimes suggested that the manual was inspired by the radical reforms in New Zealand in the late 1980s and early 1990s but these reforms were mostly at the national level. While there can be no doubt that Wayne Cameron - who was Deputy Auditor General at the time of these reforms in New Zealand - would have been well aware of the organisational and even asset management problems facing the public sector at the national level, the IIMM did not arise out of these national level considerations. It is a local government product.

Footnote: In 2000 Wayne Cameron was appointed Auditor General in Victoria in which position he applied AM to a number of government audits. Kevin Brady became the Auditor General and he was just as enthusiastic for asset management and led many changes.

### **NO MAN IS AN ISLAND**

**Roger** would not have been able to do the things he did without the support and backing of his firm, GHD.

I would not have been able to do the things I did without the Parliamentary Public Accounts Committee of South Australia and their powers of a Royal Commission.

In the same way, **YOU** will not be able to do anything significant *by yourself*. However you can prepare yourself to take advantage of any opportunities for collaboration that present themselves and look always to how you can marshal the support of others (your organisation, your fellow asset managers, your associations) to make improvements.

**Improvements will be made by**

- **moving up the ladder of collaboration, and**
- **outwards along the vector of activity ( especially if you do not skip any of the intermediary stages)**

