

Chapter 9 - Asset Management Implementation

Not everything works - the first time! Here is what I tried in searching for an answer to:

Question 5: How can the PAC findings be implemented?

The PAC Aftermath

After the publication of the summary Public Accounts Committee (PAC report) in April 1987, there was much activity, as there usually is after a major report. Papers were written, media addressed. This one, however, went a little further. A standing committee of Parliament was established to take on board the issues arising and the Government set up a task force to review all the recommendations. The task force confirmed all the PAC findings and strengthened the recommendations.

A small unit in the public service was then created to oversee implementation of the PAC recommendations but the task was assigned to a person whose major interest in his previous senior position in Education had been to establish an extravagant show piece of a high school with money lavishly spent on it, neglecting another school just a few kilometres down the road in such poor condition that the teachers would routinely put a hand up wherever they walked in order to push back the collapsing ceiling insulation. I suspected he did not have a natural interest in asset management. He was, however, interested in impressing. He suggested that we write up the schools story so that he could present it to a UN Education group in Paris. I was unaware of anything being achieved by his implementation unit.

The members of the newly created Parliamentary Standing Committee on Asset Management found the issues very difficult to handle and after about six months the scope of the committee was extended to include environmental concerns. The more general environmental issues took the focus away from asset management.

This was not entirely the committee members' fault. The public servants advising them on asset management, with an eye on their budgets, emphasized the immediate need for funds and the long term nature of asset management outcomes. The message that came across to the committee was that they needed to invest a lot of money now for unknown (but assuredly great!) benefits at some unspecified later date. I argued with these public sector advisors that this was like saying "I am going to punch you in the stomach now, it will greatly hurt, but when the pain subsides (and i can't tell you how long it will last), you will feel absolutely ecstatic". I did not think this a winning strategy. I wanted them to frame their approach around the changed management and governance requirements they were now facing but they found this too difficult. I can understand, it was new - and it *was* difficult!

Outsourcing begins

After working for the water authority and the PAC, both high profile organisations, it was a shock to find myself now in a very demoralised department. Housing and Construction (a.k.a public works) was losing work to the private sector and facing criticism from all quarters. It was desperately looking for a new role. My own newly created position of 'industry policy' was evidence of this, designed to elevate the department by 'advising' the construction industry at large, but we were scarcely in a position to advise ourselves let alone others.

South Australia was not alone in this situation. All public works departments across the country were experiencing the same pressure, with the singular exception of NSW, under the innovative leadership of Premier Greiner who was charting his own path. The prevalent view was that the private sector was able to do everything better and more efficiently because it had a 'profit motive'. Without this as a spur, it was considered that staff would be lazy, incompetent and inefficient.

This view was supported by State Treasuries struggling to cope with a reduction in funding from the Federal Government. They were looking for ways to cut costs and 'outsourcing' to the private sector was being promoted as a way to be more efficient. Many articles claimed that outsourcing could reduce costs by as much as 20%. It was assumed that this was because of public service

'inefficiency' and when savings did result, this was seen as confirmation. Initially it went unnoticed that most of the savings arose not so much from greater efficiency but rather from work not being done.

For example, when letting a window cleaning contract for schools, administrators now needed to think about how often it should be done (which they had previously left to their workforce to decide according to need). Where the service had been in excess there were genuine savings from this move. However only the costs were measured, not the service benefits. Services were too difficult to measure and so were assumed to remain constant - despite reduced costs.

Two major sources of 'savings' had serious consequences. In the days of public sector 'stewardship' (before the mid 1980s), construction was designed to last. It could be said (and was said) that it was 'over-engineered'. Initially, the robust nature of construction meant it was possible to neglect a certain amount of routine maintenance and yet still have a functioning asset and this yielded an early source of 'savings'. Such maintenance deferrals, of course, had their limitations, but in the excitement of the new, we were not looking! However, as more and more construction in subsequent years was let to the private sector motivated by profits rather than by asset longevity, it failed to be recognised that the level of maintenance now needed to be increased to compensate for less robust construction.

'Savings' were also achieved by removing the public sector commitment to training and apprenticeship. Again, initially, the consequences were ignored. By the time they were recognised the shift to the private sector was well advanced.

Early recognition

Although asset management was initiated at the state governmental level, via the Public Accounts Committee's reports and recommendations, the take-up was, in the early years, largely by practitioners rather than the decision-making bureaucracy, by the field operators and maintainers who were daily witness to asset deterioration and wanted to do something about it.

Leading the field in this respect was Roger Byrne, an engineer with GHD (Gutteridge, Haskins and Davies) in Melbourne, Victoria. Many engineering asset managers working in water and sewerage and local government in the early 1990s and 2000s and, equally, many local government administrators, would credit Roger with being their introduction to the field. He was a one man power house. What made him stand out was his recognition that technical knowledge alone was insufficient, asset management also required economics and accounting. Whenever he learnt something new he would write it up as a 'briefing note' for his GHD clients. Later these briefing notes became the content of 'National Asset Management Manual for Local Government' 1994, the first local government asset management manual and the basis for what was later to become the world renowned IIMM (International Infrastructure Management Manual).

Meanwhile, back in Adelaide, figuring that asset management, like charity, needed to begin at home I looked to how it could be implemented in the housing and construction department. Although it was looking for a new role, the department was still to be convinced that asset management was the way forward. Many, particularly the architects who were the dominant profession in the department, clung to the hope that they could continue to do what they had always done and were rejoicing in their newly chosen construction-focused logo, 'SACON' (South Australian Construction).

Life cycle renewal forecasting

Working on the assumption that moving the department to a new role in asset management would be helped by it having new knowledge, new competencies and new attitudes, this is what I decided to explore. An opportunity to do this had, in fact, arisen very early. On just my second day on the job I arrived to find two of my fellow branch managers waiting for me with a proposition. One had a job that was already over time and budget and the department's major client, the Education Department, was not pleased. The proposal was for me to finish the job (at no additional cost to the project!) and in such a way that the client would think the delay was worth it. The other branch manager suggested it would also be good if I could perform this miracle whilst finding a use for a troublesome regional manager who needed to be relocated. I was amused to note that they offered me nothing in return for taking on these tasks, and I did wonder whether I was expected to fail, nevertheless it seemed a fun challenge so I agreed.

It turned out that the Education Department had asked for information to help them inform their maintenance budget planning. This had been interpreted by Housing and Construction as a request for detailed condition assessments and so they had started on a room by room, component by component assessment - for hundreds of schools! No wonder they were over time and budget and the job was nowhere near finished. Education only wanted a money estimate, not details of all the physical jobs that could be done. This was an opportunity to apply the PAC life cycle renewal forecasting model. The job was completed and the client was delighted that he now had a method he could re-use.

Asset management slows down the rate of construction

My optimism that converting the department to an asset management organisation was indeed possible was quickly dispelled after attending my first - and only - budget meeting. The only question at that meeting was how fast could we spend our budget, not how well could we spend it. Both Treasury and Parliament were complaining we were not spending fast enough. No one wanted to take the time to consider how to spend more wisely. With this pressure on the department, how was I to position better asset decision-making? This was an early recognition that asset management needed to go hand in hand with change management - and that we needed to operate on many fronts.

Zero based replacement (ZBR)

My next approach was to encourage the department to consider what I called 'zero based replacement'. The normal practice was to replace anything that failed without any consideration as to whether it was still needed. My director liked the ZBR idea which had the potential to demonstrate that the department could 'add value', as well as to reduce some of the backlog maintenance that Treasury had been agitating about, and he was keen for his staff to be involved in developing ideas for alternatives to replacement 'as is'. For almost 9 months, various groups met to think about this - and got nowhere. The trouble was that they were construction oriented architects or engineers and chosen for their 'doing' ability, rather than their 'decision-making'. The pressure was always on them to do things quickly, as the budget meeting had shown, and so they had developed techniques for this, such as not thinking too long or too slowly about alternatives. Replacement 'as is' was by far the quickest way to spend money. Searching for alternatives was not only beyond their skill set, it was contrary to the felt needs of the department. I would therefore need to demonstrate what was required.

The opportunity arose one day when I was looking through a list of maintenance items and noticed one for the replacement of a school boiler that had broken down some 18 months ago. Sympathetically, I said to the Maintenance Supervisor: "You must have had a lot of complaints about that one - last winter was the worst we have had for over ten years" His answer rocked me. "No, not a one!" Curious, I contacted the school. What problems had they experienced over the past 18 months as a result of the failure of the boiler? None, really, was the answer. "Our problems are not in the winter, but in the summer time. On hot days we have to crowd everyone into the library, which is the only air conditioned room we have. We really could do with air conditioning.

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

Ideas are one thing, people are another!

Sadly, this is not the end of the story. Feeling pleased with the creative contributions of the team, I wrote up a short report and asked my assistant if he wouldn't mind taking a few photographs of

the school and boiler to illustrate the problem we had so effectively tackled. Thirty minutes later I had a phone call from him, saying it wasn't there. "What do you mean it isn't there, a school can't just disappear!" "No, not the school, the boiler isn't here. The school tells me that the maintenance supervisor has removed it because the replacement is coming tomorrow!" This was the same maintenance supervisor who had been part of our team analysing the zero based renewal problem over the past 4-5 weeks! I was absolutely floored.

I called him in and asked him what on earth he was doing since the team had shown that the boiler was not needed and that the maintenance resources could be used more effectively for the school by dealing with the problems they experienced in the summer time.

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

Change takes time! And considerable patience.

Data, Information or Knowledge

The Public Accounts Committee had asked a range of new questions and seeking answers to these questions had greatly expanded the range of the data collected. Seeing this, many sought to add more data items to their own asset registers, whilst happily chanting 'knowledge is power'. It went unrecognised that it was the *selection* and the *analysis* of the data that yielded the power of the Committee's results, not just more data.

SACON's data base was the envy of all because it was the biggest. We could identify no fewer than 26 different types of school toilet block! No one could say why this was an advantage, other than that data was good so more data must be better!

But was it? Already it was difficult to keep it updated on a timely basis. Errors were occurring and users were not trusting the data. On nice sunny days, our architects would take the opportunity to visit the site, claiming the database unreliable. Facility managers in the Education Department would point to a school on the database which they knew to have been burnt down months before and ask how it came to be still on our database.

We needed to cull. I gathered a small team consisting of an architect, a planner, and an engineer, with me as economist and we agreed that if none of us, from our different perspectives, could think of a use for any particular data item we would simply eliminate it.

Pen in one hand, ruler in the other, I faced my small advisory panel. We had only gone down about 8 lines before we came to such an item. 'Good', I said and positioned the ruler. But now that it was a reality, and not simply an academic position, alarm caused them to freeze, fear of making a wrong decision prevented any decision - and the database continued to grow.

Part of the problem was that the people responsible for managing the data did not know what it was to be used for. I was later to find that this was a common problem in asset management. Without a clear idea of what the data would be used for, and how, not only were we at risk of collecting the wrong data, or collecting it at an inappropriate level of aggregation or timeliness, but what few realised at the time - and perhaps even now - is that information, by itself, is useless. Unless we have the processes and institutions in place to take that information and use it, we might as well not have it.

Our database attempted to record the level of utilisation so that accommodation could be moved from surplus to deficit areas. Yet the administration had no process for this and without it, no department with surplus accommodation would admit it, for fear that, if they needed it back later, they would be unsuccessful and any department needing more, once it had been approved by their Minister, wanted new custom-designed accommodation, not some other department's 'cast offs'.

Whilst asset management has resulted in many improvements, the issue of data into information and then into knowledge (i.e. usable information) still has far to go.

Otis Elevators

I had been struggling to get the department to believe that asset management was the way forward. Whenever something arrived that looked like it could relate to asset management, someone would come up and say "This looks like asset management, so its yours!" And I would hand it back, saying "if it's asset management, then its ours!" Then came a breakthrough.

The Directors were going on a two day retreat to set directions for the department and my director asked for something he could present that would capture their imaginations and allow us to adopt asset management as a role of the department. Knowing that if my name was on it, it would be immediately recognised as asset management by the other directors, and rejected, I left my name off. And I did not use the words asset management anywhere in the document. Instead I titled the presentation "The value of information to the future of SACON" and told them the following story about Otis Elevators.

Otis Elevators built and serviced elevators. Its large volume business had been built on the premise of shaving the once-off construction price and recouping on ongoing service contracts. But now Otis had a problem. Its initial captive service market was in danger of disappearing. A large geographic distribution combined with a non-uniform standard of service had encouraged the development of smaller, localised, service firms, many of them staffed by ex-Otis employees. They were in a position to provide quicker and cheaper service. How did Otis react?

Otis attacked on two fronts. One, it improved the training given to service staff and staffed its telephone line centres with highly trained operators to record the problems. Two, it used this information base to create a competitive advantage.

Firstly it capitalised on its extensive geographic distribution to record and analyse service problems on a national basis. Then it installed diagnostic equipment in its lifts which fed information directly back into the centralised record system. When combined with maintenance and system records this enabled Otis to predict problems and to carry out corrective services while attending to routine maintenance.

This combination of information and training enabled Otis to lower the unit cost of service, develop preventative measures and regain its competitive edge. Otis realised that information linked to operational activities is a source of value that customers are prepared to pay for, because they didn't really want a cheaper way to fix malfunctioning elevators - they wanted the elevator not to fail in the first place.

Focusing on the customer's need rather than their own inputs won the day!

The paper went on to show how SACON could use its own extensive information to improve its standing and you can read the whole paper on the Talking Infrastructure website.

On the Monday after the retreat, my director was able to announce success!

However, what followed reminded me of the wisdom of the adage 'be careful what you wish for'.

We should be the state's asset manager

Naturally, I also shared this story with my friends in other Australian construction and public works departments and it was not long before they were all writing to me exclaiming excitedly "We should be the State's asset manager". This was, of course, not the message to be extracted from the Otis Elevator story. My fault, I should have made it clearer. The reason for Otis' success is that they thought of what they were doing 'from the customer's perspective'. Once they did this, they could stop focusing on their own costs and timeliness and focus on what was really important to their customers - that the elevator remained in service and there were no unexpected outages. They then developed a product (their diagnostics) to ensure that this service would be provided. It was not Otis deciding what to do, but rather recognising where they could be of service.

I then had to explain to my friends that they could not be their State's asset manager because they only saw one side of the picture. They understood the assets, but they were not in a position to understand either the demand on those assets, or the issues connected with the related resources (information, budgets, labour, political pressures) that government agencies such as Education, Health, Prisons, indeed all other budget dependent agencies, had to manage. I suggested that it could be useful to think of taking their car to the garage mechanic who says that the engine is shot and needs replacement. "You gasp at the cost and immediately start thinking of your options. Perhaps you could catch the bus, maybe this was the right time to change over the car, you wonder whether you might get that promotion and with it a company car. You also think of all the other demands on your money at that time. None of these things the garage mechanic knows. He only knows the state of the engine. He can advise, he cannot decide." Public works, I said, are in the position of the mechanic. They know some things, but not all things. They can advise but not decide.

This was a time when many process changes for managing maintenance were being considered. For example it had been suggested that the money for school maintenance be given to the headmaster who would know the school needs better than most. Then there was the story of the headmaster who had declared that if he were to get his hands on the maintenance money he would spend it all on trees. Stories such as these naturally caused concern among the maintenance fraternity.

Other suggestions included establishing a general 'maintenance charge' within which public works would determine and carry out the work needed. But who was to determine need?

As can be readily seen, there was no clear winner amongst the ideas submitted but agencies and treasuries would continue to experiment, information was gathered, new approaches considered. This is asset management in practice, an ever changing process of learning.