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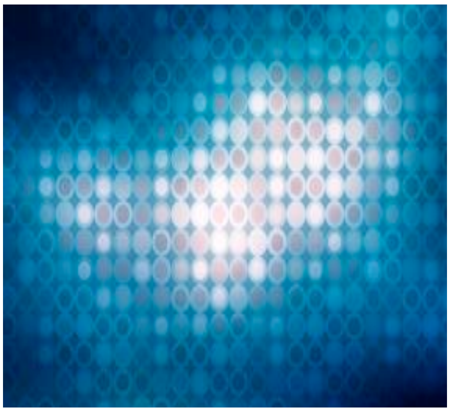
AMQ International's

STRATEGIC ASSET MANAGEMENT



June 24, 2013

Risk, Maturity and Culture

What does AM maturity mean to you?

In this issue we invite you to consider your answers to 5 key questions posed by the Asset Management Council. Martin Kerr, UGL, provides his answers and I look back from the lofty heights of 2030 to take a long distance view of our path to maturity.

What does Risk mean to you?

Something to be avoided? Something to be welcomed? How do you measure it? We look at a new book, just produced in 2012, that deals with the basic statistics and understanding of probability that all asset managers need to know in order to deal adequately with risk - and it does it without a plethora of mathematical formulae and in a nice, conversational style - almost bedtime reading!

What does Culture mean to you?

"The way we do things around here?" Two presenters at the recent ICOMS take very different approaches to the changing of culture to improve performance.

As always, I hope that you will benefit from these ideas
And enjoy!

Penny

Dr Penny Burns, Editor, AMQ International
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EDITORIAL: Perfection, how would we recognise it if we saw it?

In 1987, I gathered a group of very smart corporate planners, finance specialists and engineers (there were no asset managers then) from diverse backgrounds - manufacturing, wine making, water, electricity, health, housing and public works - and we spent two long days trying to find an answer to the question “If asset management were working perfectly in any organisation, what would we see?”

Now, over 25 years later, we are still asking this question, although we phrase it rather differently. We speak of maturity and recognise that there are different phases that we move through. At the recent ICOMS, the Asset Management Council asked a number of us the questions below. While there were common threads in the responses, I am pleased to say that each person asked had a different take on the questions, which indicates that we are not yet in a position of mindless ‘group think’.

I was particularly taken with Martin Kerr’s responses and I have asked him for his permission to share them with you. However, before you read what Martin thinks, spend a moment to decide what **you** think. There is no one **right** answer and there are many **useful** answers, you just have to keep your eyes and ears open.

And another, related, question: How will history view our path to maturity? I hazard some thoughts on how we may describe developments in asset management, looking back from the year 2020.

You can find Martin’s thoughts on maturity and my guesses as to how posterity might view us, on pages 9 -10. But, remember, this is a game that any number can play, and play with profit! So I encourage you to provide your own answers. You do not necessarily have to share them, but that would indeed be valuable, and your answers would definitely brighten my day!

The Asset Management Council’s Maturity Questions

i. What does asset management maturity in an organisation mean to you?
ii. How would you measure asset management maturity?
iii. What would be a better name for maturity?
iv. In your experience, what are the key characteristics of organisations with asset management maturity?
v. How do you engage people in the process of developing asset management maturity?

Book Review

RISK, STATISTICS, PROBABILITY
AND THE ASSET MANAGER

EVERY asset manager needs statistics

The task of the asset manager is, as we know, to ensure that an organisations assets are deployed so as to maximise the achievement of the organisation's goals (at lowest overall life cycle cost and with acceptable levels of risk). This cannot be done without a good understanding - and an ability to use - statistics, in particular risk and probability.

Yet how many asset managers feel comfortable with statistics?

An exploration over the past year or so suggests that many, if not most, asset managers are not too comfortable when it comes to statistics, and whereas we can throw the word 'probability' about with gay abandon, we don't really understand it.

If this is you, then fear not, help is at hand.

I have a large collection of books on statistics, they are all weighty tomes filled with formulas. Not exactly bedside reading. So I am greatly indebted to Andreas Hack of the Hobart City Council for drawing my attention to a new book by Glenn R. Koller, entitled "Risk Monetization" which I would most happily have on my bedside table.

Statistics in a way that is meaningful

What if you didn't need extensive mathematics and the book was written in a language that was easy to understand, and meaningful. Wouldn't you then be inclined to read and profit by it? Let's start with a short excerpt on a subject that I looked at in a recent SAM - Risk and Uncertainty.

> **"The primary goal of risk analysis is not to reduce risk, but to get an unbiased view of the chance of success of your project and to determine the value of the project."**

"Allow me to make a case for the above statements with an example for the above statements with an example . Let's suppose that you are the person in charge of construction of a new building. The materials-transport and crane configuration that has been foisted upon you by the engineers is one that has been used around the globe for more than 40 years in the construction of, literally, hundreds of buildings like the one for which you are responsible. Decades of statistics clearly show that over a 1-year period - using the 'tried and true' construction methods suggested - there is a 35-40% chance

(5% uncertainty range) that something of sufficient mass will be dropped from a height that could cause injury to workers or significant damage to infrastructure or other equipment.

Because of your personal concern for workers' safety and due to the company's increasing focus on safety and cost, you are not at all happy with the fact that in a 1-year period there is a 35-40% probability that something will fall on something or someone with serious consequence. So you set about redesigning the material-transport equipment and process, the methods used to erect and utilize the crane, and the processes employed by workers to interact with the entire job site

Your engineers indicate that employing the new techniques and processes will add somewhat to the cost of the operation. However, they estimate that if the new methods are faithfully employed, the probability of serious damage or injury from dropped objects will be reduced to 5-20%. Success in this project is, in part, defined by not causing damage to equipment or harm to workers. The value of the project will be greatly increased if not equipment is damaged and / or if no workers are injured - in spite of the fact that the costs to employ the new methods will be somewhat higher.

So employing the new methods and processes will increase your chance of success and the project value. However your uncertainty has gone up considerably. Forget about the percent probability numbers quoted above. Consider that if you employ the 'old' methods and processes, there exists 40 years and hundreds of buildings of evidence that indicate what is the chance of "failure", that is, of a materials drop resulting in serious consequences. You are going to employ new techniques and processes that, if ardently applied, will reduce the probability of a significant drop. However, this being the first time such techniques and processes are being employed, you can't possibly be more sure of the magnitude of the new probability of a serious drop than 40 years of evidence would suggest. Your uncertainty is much higher (you really don't know what the probability of a serious drop will be), but your chance of success (no serious drop) and the value of the project, hopefully, will increase.

Uncertainty reduction is great is you can get it. I am *not* making the case that reduction of uncertainty is a bad thing - quite the opposite. If you can achieve a reduction in uncertainty while simultaneously increasing the chance of success and/ or the value of the project, then it is good for you! "

Now I bet you understood all of that and that it made sense to you.

But did you know that every discipline not only sees risk in a different way but also represents it differently?

For example, Health and safety and Engineering will normally look at risk as problems to be avoided or minimised, but Finance knows that low risk equates with low profitability and vice versa. Risk is the chance of something happening, but that includes opportunities as well as threats. Koller again:

“Oh, life in the risk world would be so much simpler if it were true that people in different disciplines viewed risk in different ways, but they used the same metric to measure the risk. That is, in a perfect world, the members of the finance department mentioned above and those personal in the H&S department might see risks as opportunities and threats, respectively, but would employ the same metric to measure risk - such as dollars. Now I know that expressing H&S risks in dollars is not a socially acceptable practice (so many dollars for loss of a limb, so many dollars for loss of a life, etc.) but in the insurance business and other endeavors, H&S risks typically are monetized. This is how, for example, insurance premium rates are set.

As I said, it would be great if members of disparate disciplines all utilised the same metric to measure risk, but they don’t. While it is true that most risk, ultimately, become translated into some measure of value (money), along the risk-assessment or risk-management journey, various metrics are utilized. Numerous expressions of time, costs, incomes, simple counts and other metrics are used. But it’s even worse than this. Not only do different disciplines view risks in unique ways (like the finance and H&S folks) and utilize different metrics to measure risk, but they employ a wide spectrum of plots, charts and other methods to express risk.

Project managers, for example, are likely to express risk by utilizing a risk register. This is common because costs, time, mitigation actions, responsible parties, due dates, and so on are important elements of the reward system for the project manager. That is, he or she, gets rewarded for getting the project done on time, on budget and with the allocated personnel. A lawyer, however, is likely to express risk as text. Attorneys find prose to be a natural medium through which they can relate complex issues and concepts. Engineers and modelers are more likely to gravitate towards plots such as cumulative frequency curves. Plots such as the infamous ‘Boston Square’ are favored by project planners. “Traffic lights” plots (red, yellow and green dots) are favored when ‘risk dashboards’ are the aim. And so it goes.”

OK, so now that you know that others see the world - and express it - differently, what can you do with this information?

For one thing, you can communicate better.   For another, you can tackle risk issues from multiple angles. For instance, you will know:

Why your aggregate risk level might be a red, while all the elements are green.
How to recognise and handle ‘soft’ risks, and
How to design a risk-monetization process that fits with the existing culture and workflows,

Glenn R. Koller’s “Risk Monetization” was published by Press in 2012. It is available from Amazon for $69.   And in my book, that’s a bargain!

In the last issue of SAM I suggested that the concept of ‘culture‘ was becoming more important in the shape of the asset management that we adopted. Here are a few more thoughts to add to the mix, drawn from presentations at the recent ICOMS.

Working within the Organisation for Culture and Performance Success

“We at SAMI, and others in our field, routinely write and speak about the methods and success stories that have resulted in substantial improvements. These are inspiring stories, and give us insights on what tactics to use, how to deploy them, and the kinds of gains we can achieve.

The truth that most of us prefer to hide is that most of these successes were not sustained over time. So many of the improvements we make create anecdotal stories. One-time events. Sometimes we get bottom line changes mentioned in our stories (additional production or reduced costs), but mostly we talk about a unit or a line and the changes in availability or another KPI.

Why is that? Why is real, measurable, bottom line change so difficult to get?

It comes down to culture. Cultures resist change like crazy. That’s one reason why Toyota and Honda remain so good at what they do. They are so conscious about creating the right culture, they spend years at it before a product ever comes off the line. Each new person who joins the company learns expectations, methods, and teamwork. You can change out the entire workforce over a period of time, but the values and expectations remain embedded.

This is also true for the low-performers. They transmit values and expectations as well as the best companies.”

Mark Broussard, President and COO of SAMI, USA
“The Performance Culture’, ICOMS 2013

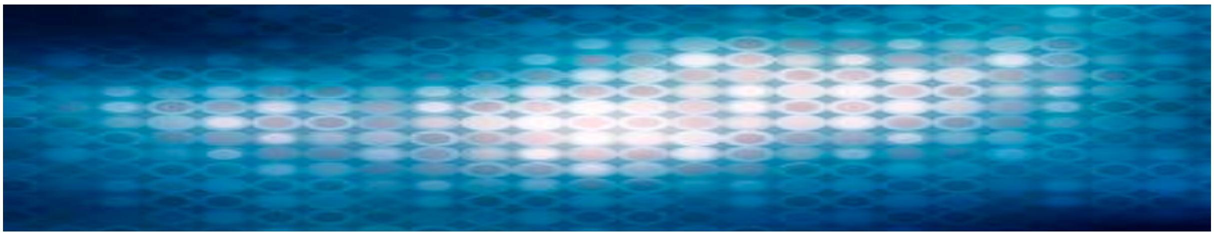
Note: I would also refer readers to SAM 299 “Organisation, a better way” which dealt with the way that Mornington Peninsula Council embed their philosophy (culture) called “the Mornington Peninsula Way” in all members of the council showing that this approach to culture not only works but can be applied at a local government level.

Working with Professional Groups to Reform Industry Culture with respect to Building Maintenance

“Desirably, the culture throughout the building design industry, the building industry, and the real-estate industry should be encouraged to pay more head to maintenance issues as follows:

- The Property Council of Australia should re-name any awards for building development to incorporate the words “and maintenance”. For example “The Construction and Maintenance of Commercial Buildings”
- The Property Council of Australia should prepare a guideline on how developers could encourage design teams to enhance the consideration of maintenance as part of the planning of buildings.
- The Australian Institute of Architects should re-name any awards for building design to incorporate the words “and maintenance”. For example “Institutional Buildings and their Maintenance”.
- The Australian Institute of Architects should prepare a guideline on how architects could encourage design teams to enhance the consideration of maintenance as part of the planning and documentation of buildings.
- Engineers Australia, together with Consult Australia, should develop guidelines on how tender documents could be enhanced to ensure that maintenance issues are addressed very seriously in tender documents and in construction. Engineers Australia should seek the input of its associated body the Asset Management Council in this endeavour.
- The Australian Building Codes Board should become pro-active in encouraging these initiatives.
- The building authority in each jurisdiction should become pro-active in encouraging these initiatives.

Lawrence Reddaway, Fire Safety Consultant
The conclusion to “ Maintaining Buildings - We need reform “, ICOMS 2013



THOUGHTS ON MATURITY

Martin Kerr,
General Manager,
Business Improvement at UGL Ltd

i. What does asset management maturity in an organisation mean to you?

Complete awareness of why we exist in the fact that our customers outcomes are actually our KPIs

ii. How would you measure asset management maturity?

I see measurement as a four stage maturity

Stage 1 - Discrete processes that do the job in isolation (task based)
Stage 2 - Interfaced proceses that do the job and are aware of the internal hand offs (Information required / internal customer)
Stage 3 - Integrated processes complete the job and are not only aware of the downstream information quality requirements but are aware of the overall process outcomes
Stage 4 - Fully integrated workflow that is self aware in that it looks for improvement upstream and downstream

iii. What would be a better name for maturity?

"A collective consciousness"

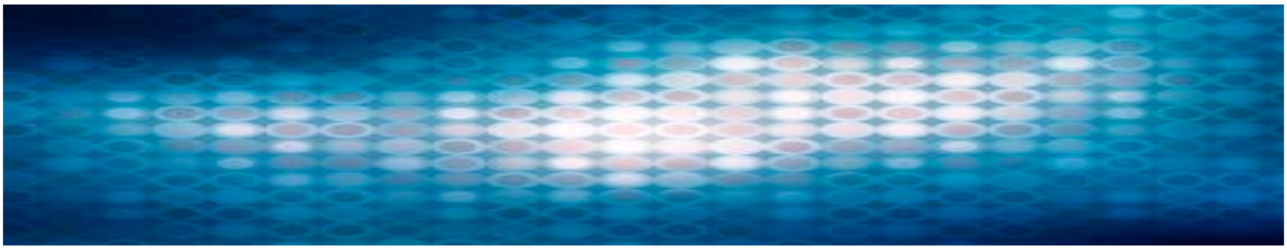
iv. In your experience, what are the key characteristics of organisations with asset management maturity?

- They discuss throughput and volume as opposed to maintenance and spares
- Strategy is visible down to the worker level
- Leadership is strong at the top
- Visibility and transparency is the rule and not the exception
- Trust (Just Culture) is evident

v. How do you engage people in the process of developing asset management maturity?

My incremental story at UGL...

- A monthly email that invited people to participate in AM discussion
- This then requested AM stories from within the org to use as a Knowledge Bank in aid of Bids and Tenders
- This turned into the formulation of the UGL AM Team Charter
- This then evolved in Special Interest Groups (SIGS) (One for each of the Delivery Model areas..CM, SE, etc etc) we also added in Value Proposition
- This then drew upon PAS/AMbok and ISO-DID to come up with principles
- The SIGs are now meeting independently and will present their roadmaps to the wider group at the end of 2013



HOW MIGHT WE VIEW OUR PATH TO ASSET MANAGEMENT MATURITY IN 2030?

1. REALISATION

Late 1980s. We realised that, without attention, assets will degrade and end up costing our agencies far more to renew than would have been involved in good asset maintenance.

2. DEVELOPMENT

From mid 1990s We developed the tools and data to support renewal decision, we build AM Plans, develop sound risk management techniques. We understood the importance of reliability centred maintenance and life cycle management.

3. SERVICE FOCUS

Starting around the 2010s we transited from a focus on assets to a focus on the services they supply and begin to realise that the tools we have available to us at stage 2, whilst still important, are not sufficient to ensure sustainability of service as distinct from sustainability of the assets. With the change to a service focus, more disciplines become actively involved in asset management - for example, architects and urban planners - and the boundaries between disciplines start to merge.

4. FLEXIBILITY

We began to make a distinction between Risk (where we have the knowledge to assign probabilities) and Uncertainty (where we don't) and to recognise that in times of rapid change flexibility is a more important requirement than physical longevity. We started to develop tools that extended our previous reliance on risk management and life cycle costing into the world of uncertainty. Asset managers with a wide range of disciplinary backgrounds developed serious skills in scenario development and worked with their agencies to ensure their assets could cope with all possible future contingencies. What was regarded as 'disaster planning' in 2013 became part of standard operational procedures. We went beyond simply extrapolating the likelihood of events we had already experienced to deeper analysis of trends and their consequences.

5. ETHICS.

After initially resisting a move to greater transparency and accountability (there are still those who remember the days of late 1990s through to the 2010s when much ingenuity went into subverting the intent of the Freedom of Information laws), a new generation of managers embraced the opportunity for clarity and focus that came with transparency. It was seen as a defence against charges of corruption. Accountability ceased to mean a way of assigning blame for in a world demanding increased flexibility, the emphasis was on early recognition of problems -and the ability to act on them. In this world, failure has been recognised as inevitable and no longer stigmatised. The focus now is on avoiding making the same mistake twice. In this more open world, honesty and a high sense of ethics are seen as positive virtues that help us avoid mistakes.

NOTES

In 1987, the CSIRO was already writing about the dangers of asset degradation in the absence of better maintenance, and they were not the only ones. The Facilities Management Associations were also well aware of the problem. In fact, the earliest known research was carried out with respect to university buildings in the USA in the early 1980s.

Where are we in 2013?   I would suggest that most of us are at Stage 2, verging on the brink of Stage 3.   We have yet to develop tools for measuring success in terms of customer service but we have made a start with community consultation and some tools are starting to emerge.

Will we make it through to Stage 5 by 2030?