AMQ International

Strategic Asset Management

Issue 59, April 6, 2001

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A TALE OF A T-SHIRT

Contributors to this Issue

Gerald Davis, President of International Centre for Facilities, Ottawa, Canada

Françoise Szigeti, Vice-President of the International Centre for Facilities, Ottawa, Canada

Les Evans
Director Asset Management Division
NSW Aboriginal Housing Office

Chris Adam
Cardno MBK
Brisbane

It was just a torn scrap of very muddy t-shirt. "That's what I get when I put it under my tap" he explained in tones of evident disgust. The muddy scraps turned up every few months. They seemed to correlate with the flushing program of the water authority. Flushing was designed to improve the quality of water flow to consumers. After flushing, for a few months the water was relatively clear and free of sediment, but for a few hours the water flowed like gravy. The authority's water statistics told it that it provided relatively clear water 99.7% of the time, which was held to be a pretty good service. But anyone who happened to put through a load of white washing at the time of the flushing probably thought it an exceedingly poor service. Who was right?

There are several messages from this story.. One is that it is not what you do, but how it is perceived by the community, that counts. Another is that the water authority was not keeping the community 'in the loop'. Later, it began the practice of advising consumers when the pipe flushing would take place. Later still, it found ways to avoid flushing at all. It is interesting that it was only when the authority focussed on the service – from the user's perspective – did it realise that improvement was needed!

This issue: Performance – from the user's perspective.

Researched and written by Dr Penny Burns, AMQ International.
Published fortnightly. Subscription, Comment, or Inquiries to

AMQ Intenational
PO Box 75 Salisbury South Australia
Tel 618 8258 4342 Fax 618 8281 5795
Email: sam@amqi.com

The wonderful versatility of the **Serviceability Tools and Methods (ST&M)**

Gerald Davis and Françoise Szigeti, President and Vice President respectively, of the **International Centre for Facilities, Ottawa, Canada,** presented their ideas on performance and serviceability to enthusiastic audiences in Adelaide recently.

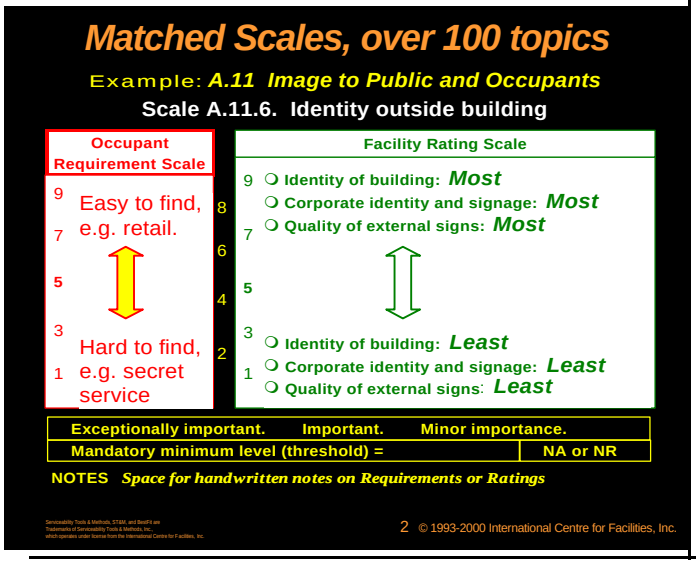
With applications as far reaching as managing individual buildings as well as making strategic portfolio decisions; evaluating building designs; designing performance based contracts; assessing existing buildings for negotiation for acquisition or lease; and examining savings from maintenance outsourcing, it is no wonder that their presentation of the capabilities of the ST&M tools found so much favour with their audiences. Here are some of the 'highlights'

"If only I had known to ask for something different"

Some 35 years ago Gerald Davis was a co-partner in a 20 person architectural practice. They did well and most of their business was repeat business. But so frequently he would hear the wistful comment "If only I had known enough to ask for something different!" that he decided to sell his share in the practice and turn, instead, to designing briefs for his clients.

To avoid 'reinventing wheels', he looked to a way of designing common demand profiles for different types of need, expressed in non technical user terms and related to what the user needed to do to get the job done.

The real breakthrough came when he realised that matching profiles could be produced from a technical services perspective to rate buildings according to how much of a given attribute they actually provided.



Both profiles are developed from multiple choice questionnaires that enable both users and building assessors to assess how much of an attribute is required/provided.

When the Canadian Public Works needed a way of managing their federal building portfolio, this work was given a great leap forward. Now the "Serviceability Tools and Methods" (ST&M), are an American standard (American Society for Testing and Materials (ASTM) Standard) and have been used with thousands of participants in hundreds of buildings in both the public and private sectors in North America, Europe and New Zealand. The ST&M tools have also been applied to depots, health facilities, laboratories, municipal infrastructure, judicial facilities and embassies amongst others.

Software to manage the recording and analysis of all rating assessments makes the task quick and easy.

What do you need to get the task done?

What do you..

- Need to be able to do? To see? (or not see?)
- Need to be able to hear (or, not hear?)
- Need to experience, or not experience?

…… to get the job done.

The Missing 2 ½ Floors

The value of a
performance based building contract.

The client needed a new head office, it had the site and had analysed its space needs according to task related requirements. Certain floor layouts (the placing of pillars, for example) restrict the placement of furniture and fittings, so that what is actually available is less than the nationally used "BOMA useable" measures; this is referred to as the building loss factor. The client stipulated that they would accept a building loss factor of between 5-8% in the design, but not more.

The chosen designer planned to build the 27 story office building using a steel framework, with 22" x 24" columns in the low rise and thinner columns above.

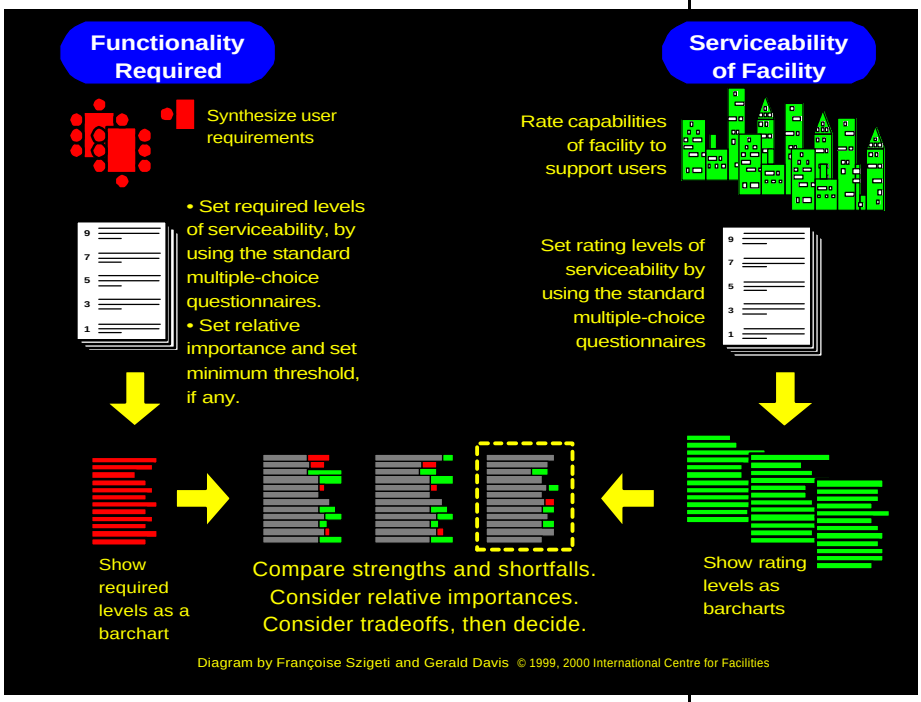
The contract was signed with delivery due in time for the client to move in on June 1st in two and a half years time. The current lease stipulated that there would be a penalty for delayed exit of $ ½ m per day for every day past the contracted end date (June 1) that the tenant remained in the building

Construction started but the developers struck a problem in that the steel framework could not be made available in time. They had to switch to concrete pillars instead. This resulted in the 22" x 24" lower pillars increasing in size to 60" x 72" and the building loss factor greatly increased beyond the allowable 5-8%. In fact the building loss was so great that to manage the required accommodation with the new construction technique meant that an extra 2 and ½ floors would need to be added.

This resulted in a $US43m negotiation!

Had the client expressed his requirements in terms of a 27 story building, he might have had to wear the cost of the increase in floors (or pay the penalty for the delay to his current landlord). However, the contract required a design that would provide the required level of accommodation - a performance based contract! The negotiations were settled 'out of court'.

Gerald Davis says that he does not know what the legal outcome would be. "None of the performance based contracts we have been involved in have ever gone to court. The information is too strong. They have all been settled out of court."



Comparing Functionality Required with Serviceability of the Facility (ie the capacity of the facility to supply the functionality).

Required functionality is determined by working through the questionnaires with both groups and individuals. The required levels of each attribute are shown as horizontal bar charts of different lengths (to match the level of the attribute required). Buildings are then rated against capacity to supply and each building is then compared in terms of shortfall and excess; the one that is the 'best fit' is preferred.

"Leasing? Save time and Negotiate from Strength"

Using the ST&M Tools for a high level scan.

"They had 90 days to move into new premises. Not much time to find other buildings and negotiate with the owners. A real estate search suggested that there were six possible buildings in the desired area and within their price range. The CEO decided to ask for a 'high level scan' using the ST&M tools. Taking the 'standard office demand profile' as her starting point, she made a few adjustments for needs particular to her organisation and asked that the six buildings be evaluated for 'best fit'. Evaluating the six buildings according to the matching supply scales to meet the user requirements took just on 1 ½ days. In this case the answer was a 'no brainer'; only one building met the minimum threshold requirements for some key functions! Armed with details on the extent to which the building fell short of required capacity in some areas and exceeded it in others, the CEO was able to negotiate a very satisfactory lease agreement."

"Taking it to the Board"

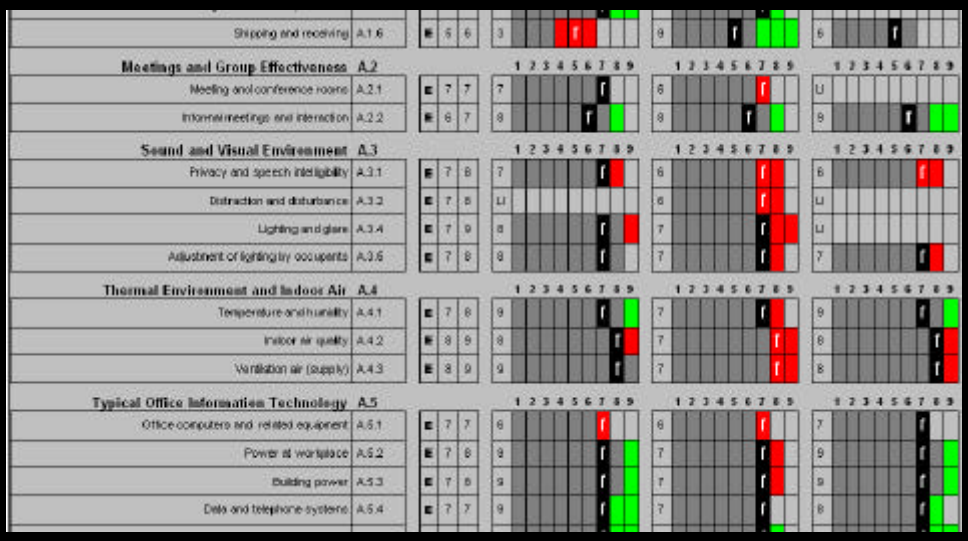
Get to the Crux of the Issue, Quickly

There are 100+ sets of scales to define needs and assess buildings. The software will print out the required level (the greyed in boxes in the figure below); the minimum threshold level (the level marked in black); and the shortfall (red) and excess capacity (green) [use your imagination!]. Where information is not available the attribute will be left blank.

No director will sift through the pluses and minuses on 100+ sets of scales!

But he doesn't need to. The ST&M software "Best FIT" can pick out just those areas of 'significant difference' – where the shortfalls or excess capacity areas exceed, say, two levels. See the "Significant Differences" Chart on the next page. Remembering that the levels represent 'more or less' of a given attribute, not 'better or worse', an excess capacity can be just as serious as a shortfall in failing to produce the environment

Get the "best fit" facility



Generic Profiles of Functional Requirements are available to speed the development of specific user profiles which can then be developed as "variants"

Generic Profiles are available for:

- General Purpose
- Special security provision
- Many visitors
- High technology with rapid change
- High technology with slow to moderate change
- Mix of 'dry' laboratories and offices
- Service depots and maintenance depots

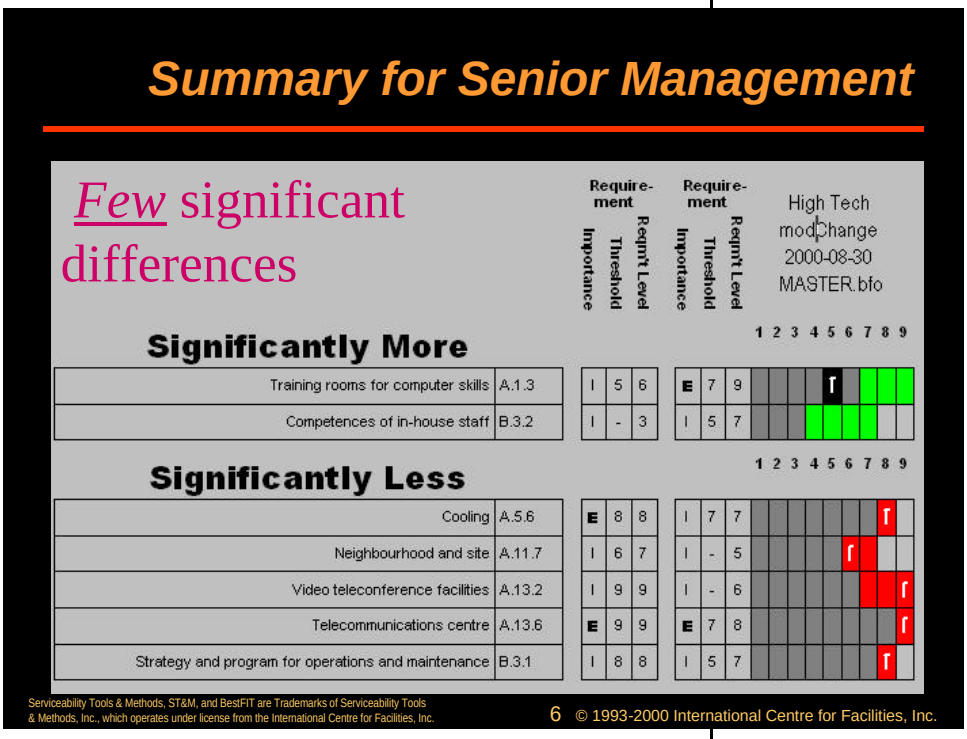
"We can save you money".

Evaluating proposed Facility Management (FM) outsourcing.

An outsourcing firm had approached the company's directors promising greatly improved performance and cost savings if the company's facility management (FM) program was contracted to them.

The Directors considered the proposition and decided to test the market. They asked their FM division to prepare a brief for market testing. The specifications came in at 720 pages! "Just a moment! We are going to the market to see what can be offered, if we are going to require everybody to do exactly as you are doing now, there is little point! Please try again. We need a brief of about 20-25 pages."

What to do? The FM Section chose Level 5 in the ASTM Functionality and Serviceability Scales and asked all contenders to price against it. While they realised that in some respects their requirements would be more than Level 5 and in other respects below it, this provided a convenient common basis on which to evaluate all contenders. Management then asked the FM Section themselves to price against the same level. The in-house bid came in second to lowest and Management decided that if the savings were to be so low it was not worth disrupting the current service and losing the accumulated experience of their own people, and the work was not outsourced.



New Scales are being written all the time to cope with special user needs.

Performance or Serviceabilty?

"**Performance** is the behaviour in service of a facility for a specific use, usually measured at one moment in time." (ASTM)

"**Serviceability** is the capability of a facility to perform the function(s) for which it is designed as and when required – i.e. range of performance over time." (ASTM)

ASTM American Society for Testing and Materials

Want to know more about how you can get the ST&M tools and software, or how they work?

Write to Gerald Davis or Françoise Szigeti at the International Centre for Facilities (a non-profit, non-government, research centre) at info@icf-cebe.com

Performance –Winners and Losers and the Triple Bottom Line

When it comes to performance—users are remarkably uninterested in the standard financial performance indicators. Most would like their suppliers to make just a 'reasonable' profit—one that will ensure their continued viability. Given our focus in this issue on performance from a user's perspective, the following are quite relevant.

Winners and Losers

A recent letter to "The Economist" took issue with an article that had drawn a parallel between competition that car makers face – leading to an increase in the quality of their products – and competition through the use of the school voucher system (whereby parents can choose the school of their choice for their children and government money to the school follows their choice).

This, the writer said, "was a bad analogy because competitive markets require that there be winners and losers and, in this example, it is a good outcome for an inferior car manufacturer's goods to remain on the forecourt unsold and unwanted. Schoolchildren are not cars. The goal in public schools is not to pick winners; it is to make all children winners. If the schools fail to do this, then they need to be fixed, not stripped of a portion of their (no doubt) best students."

The writer makes an important point. Public services (not only education) need to be of *uniformly high quality.* A private sector competitive market system that promotes overall improvement by sending the losers to the wall may be completely inappropriate for public utilities such as power and water. In the case of the car manufacturer, wastage occurs with unsold cars, but at least the consumers can go elsewhere. Where do consumers go if they get an inferior water service? When regulatory practices raise the level of industry risk and effectively limit capacity development so that supply just barely keeps up with demand—and consumers go without, who are the losers? Asset management works within this broader context of organisational structure and has much to contribute.

Triple Bottom Line

Another point about performance that needs to be made is that there are many aspects to good performance – and bottom line profit is only part of the picture.

Chris Adam, writes that Cardno MBK MBK is currently looking at developing a Triple Bottom Line reporting mechanism for NQ Water. NQ Water is one of the leaders in Queenslands developing wholesale water industry. Under the direction of an entrepreneurial CEO, the business has been transformed from an old statutory authority to a commercialised business. This has meant development of a "commercial focus" to its traditional operations. However, senior management is now looking at how the true performance of the can be measured and, therefore managed. The Triple Bottom Line may be one such mechanism.

Other organizations such as Rockhampton City Council have combined traditional economic analysis with extensive community consultation to get a "total answer" to industry wide issues which affect them.

Tools such as Total Asset Management Planning are also providing opportunities for many Queensland water service providers to look closely at all of their operational functions , how these impact on all stakeholders and identify strategies for improving their performance in a range of areas.

At the individual investment level, progressive businesses such as Ipswich Water and Maroochy Water Services apply Multi-criteria Analysis to determine the ***total value*** of projects on their capital works programs.

What are these tools and How do they work?

In managing a water utility, most managers strive to balance the financial objectives of their organizations with their environmental and social obligations. The question is – how can we manage these three (potentially conflicting) objectives?

Continued on the back page, p. 56.

How Specifications Live Forever—Mark III

Les Evans writes: "I cannot help but offer a response to the article in Issue 57 regarding railway gauges." And I cannot help but offer it to you! Here it is:

I was intrigued by the article in Issue 57 on the rationale behind (!) the adoption of 4' 8 ½ " for the 'standard' railway gauge. I was somewhat puzzled though as there are actually many gauges. The smallest gauge on a public railway operation is the Romney Hythe & Dymchurch line at 15". Compare this to the gauge adopted by one of the greatest engineers of all time, Isambard Kingdom Brunel, a great engineer who may be remembered for his name as much as his achievements. Brunel adopted 7' ¼" for his Great Western Railway. Incidentally, Stephenson was instrumental in the establishment of 4' 8" as standard gauge based on that used at Killingworth Colliery- the extra ½" was added later to reduce friction.

Australia has gauges of 5' 3" (Victoria), 3' 6" Queensland, standard gauge (NSW), and even 2' 6" on the Puffing Billy Railway. India uses 5' 6" and Russia 4' 11 $^{7}/_{8}$". Algeria uses 3' $5^{1}/_{4}$" while many Asian countries use metre gauge.

Three feet was used on the Denver and Rio Grande and parts of South America, but Sweden was a little narrower at 2' 1". Argentina adopted 2' $5^{1}/_{2}$" while many Welsh lines and even India have some 2' track. The world's first 'narrow' railway was the Festiniog in Wales, 1' 11.6" (an exact 600mm), though the same engineer designed the 2' 3" Talyllyn Railway.

I was troubled as this did not seem to make sense, given the standard size of a horse's rear end, but then I worked it out. Various gauges must match various sizes of horse, from a miniature Shetland pony to the largest draught horse!

What is the lesson for the Asset Manager? None of us want to live in a standard world where everything is uniform, rather we need to adopt designs, processes and plans to suit their specific needs and environments. The small gauge railways have a place where traffic is light and civil engineering costs must be kept to a minimum. A larger, 'standard' gauge for most operators makes sense to allow standard designs and manufacturing processes. The problems resulting from the adoption of differing gauges by the Australian colonies still adds significantly to infrastructure and transport costs in Australia.

Costs can be reduced by achieving a balance between those aspects which can and should be uniform, and those which can be unique. Standard specifications, designs and procedures can be used, and should be if they meet the needs for which they were intended, but rarely can they 'live forever'. We need to be mindful, though, to periodically check out the 'standard' to make sure it is still the best one available. Like the pack horse, steam engine and vinyl record, the time will come when a standard design or procedure is replaced by a newer one. As always, we should aim to adopt the standard which delivers the best service to the client.

PS I am an ardent supporter of the metric system, however when talking of railway history nothing sounds as good as the Imperial system.

Regards

Les Evans
Director Asset Management Division
NSW Aboriginal Housing Office

Performance and The Triple Bottom Line (cont. from Page 54)

Looking at the issue of finance first - There are many well established tools for measuring the financial viability of a project or business operations. This area has been well developed and the theory applied by experts every day

But how do we measure "social" and "environmental" benefit?

For many years, economists have tried to sought ways of applying their financial tools to these other fields and try to quantify the "cost" of social/environmental benefit (these are referred to as "externalities). However, the issue of "cost" is highly subjective – For example, it is difficult (if not impossible) to gain consensus on simple issues such as the value of a single tree, so broader application of the theory is difficult

So how do these other tools work?

If the financial issues are measured by financial people, why shouldn't the environmental issues measured by environmental experts and social issues decided by the community (through a reference group or through Council)? The environmental and social accountability process can largely driven by stakeholder identified targets and performances. That is, the experts in their field can set appropriate targets against which the businesses performance can be measured.

Is this just another "Fad"?

The organizations mentioned above have found that application of a broader frame of reference provides them with tools to measure the true performance of their businesses and demonstrate how their decisions benefit the broader community. Similar strategies are being developed by multinationals such as Shell and BHP who recognize that the impact of their businesses goes well beyond the commercial profitability of its projects and that the development of a sustainable business needs to take into account these broader issues.

Given the essential nature of the urban water industry, these tools may well provide a mechanism for managing the performance of their businesses to ensure that they remain sustainable over the very long term.

If you have any comments and questions, please do not hesitate to contact **Chris Adam on cadam@cardno.com.au.**