

# **A framework for the strategic management of facilities, balancing physical and financial considerations with service, customer, utilisation and environmental requirements**

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## **Abstract**

Private as well as public sector organisations now recognise the contribution that corporate real estate (CRE) makes to business outcomes. As a result, appraisal of facility performance has of late concentrated heavily on strategic evaluation, that is, the alignment of the real estate function with the organisation's overall strategic aims. A reductionist view of the building in primarily financial terms is not useful in this context. Rather, the facility must be understood as the intersection of the physical building and the processes that take place within it.

CRE professionals must succeed in the delicate balancing act of keeping costs under control, providing spaces that are in a satisfactory condition, meeting regulations, and allowing workers to perform their jobs efficiently and effectively. Simply choosing the most easily assembled indicators of asset performance, such as cost/m<sup>2</sup> or occupancy rate, does not lead to optimum results. Key performance indicators (KPIs) must be chosen to represent the required function of the real estate as well as its cost and utilisation perspectives.

Building on this, the paper presents a strategic facilities management tool that was developed as a major initiative with nine local government partners in Victoria, Australia. The tool incorporates qualitative and quantitative performance indicators and balances the demands of service delivery with those of maintenance, preservation of asset value and financial performance. Web access allows for multiple stakeholder input, while a central database facilitates benchmarking.

Implementation of the tool has shown that the success of strategic asset management depends on a number of issues external to the management software. Support for and promotion of strategic asset management by senior management, getting stakeholder buy-in, successful communication between stakeholder groups and the availability of sufficient resources for implementation were found to be key issues.

## Introduction

Private as well as public sector organisations now recognise the contribution that corporate real estate (CRE) makes to business outcomes (Joroff, Louargand and Lambert 1993; Nourse and Roulac 1993; Weatherhead 1997). Aligning the management of property and facilities with the organisation's overall strategic aims and objectives can support the strategic aims in a proactive way, rather than being confined to the traditional role of providing space as the need arises – a reactive approach. To manage property assets in a strategic environment effectively, one must measure how well they support the organisation's overall aims and objectives.

Traditional measurements of property performance are primarily financially based. Popular metrics relate occupancy cost to m<sup>2</sup>, full-time employees, lease cost, lease income, capital expenditure, total revenue, total expenditure and so on. Another set of metrics is space related, for example, vacant space as percentage of total space, m<sup>2</sup> per person, subleased space as percentage of total space and hours the facility is utilised. While these measures provide some indication of how the property asset is performing in financial terms, they are not able to indicate whether it contributes to the organisation's desired strategic outcomes.

This has caused facilities management to take a more comprehensive view of its role within the organisation as an enabler of strategic objectives (Alexander 1996; Englert 2001), leading to the development of ideas and practices of integrated facilities management (Then 1999; Bon, McMahan and Carder 1998; Bititci, Carrie and McDevitt 1997). Accompanying this has been a suite of models that link facility performance to the achievement of desired business outcomes (Bon, McMahan and Carder 1998; Tranfield and Akhlaghi 1995; Varcoe 1996; Amaratunga, Baldry and Sarshar 2000; Walters 1999). This is an important shift, because it means that facilities are no longer reduced to the role of providing space as needed and operating within a set of financial parameters, but are now seen as organisational process enablers.

As a result, appraisal of facility performance has of late concentrated heavily on strategic evaluation, that is, the alignment of the real estate function with the organisation's overall strategic aims. A reductionist view of the building in primarily financial terms is not useful in this context. Rather, the facility must be understood as the intersection of the physical building and the processes that take place within it. The general question underlying the research presented here is 'How do facilities support the processes that allow an organisation to fulfil its strategic aims?' And more specifically, in the case of local government, 'In a non-profit driven environment, how can facilities be evaluated in relation to the strategic aim of service delivery?'

It has been suggested that facility performance measures should relate to the main business indicators for the primary task, such as customer satisfaction or service delivery (Walters 1999; Tranfield and Akhlaghi 1995). However, applied models that link facility performance measurement to organisational strategy have, to date, been limited. Hinks and McNay (1999) have done work towards a management by variance tool, which identifies gaps in the perception of facility performance between the facilities management function and its internal customers. However, this tool does not address the issue of how facilities can support the processes that allow the organisation to fulfil its strategic aims.

The Association of Higher Education Facilities Officers has developed SAM (Strategic Assessment Model) which is built around the Malcolm Baldrige Criteria for Performance Excellence and the balanced scorecard (Givens 2000; <<http://www.appa.org>>). The International Centre for Facilities, <<http://www.icf-cebe.com/>>, has developed a method called Serviceability Tools & Methods (ST&M). This works at the macro level, with a method that matches demand (occupant requirements) to supply (serviceability of buildings) in relation to the facility's ability to support/impede the strategy of the business or the functioning of its occupants.

With the rise of strategic management, performance indicators have been adapted from primarily financially based measures to embrace multidimensional approaches. Traditional measures derived from costing and accounting systems are limited as the sole tool for performance evaluation as they are historical, lack strategic focus, are not externally focused and, as such, provide limited information appropriate to management decision making. Furthermore, financially based measures lack the ability to reflect aspects of service quality and customer satisfaction.

Perhaps the most influential of the ‘new’ approaches to performance measurement in recent times has been Kaplan and Norton’s ‘balanced scorecard’, which balances four perspectives of performance (customer perspective, internal perspective, innovation and learning perspective, financial perspective) in relation to desired strategic outcomes (Kaplan and Norton 1992). It has become popular with industry because of its ability to combine a diverse set of performance measures that are aligned with the corporate mission. The central tenet is quite simple: performance must be measured against corporate aims balancing financial and non-financial perspectives. Applications of the balanced scorecard have also been discussed in the literature on facility performance (Amaratunga, Baldry and Sarshar 2000; Apgar 1995a, 1995b; Apgar and Bellew 1995).

Logometrix, the performance measurement tool described here, was developed specifically for local government authorities (LGAs). It adopts the balanced scorecard’s fundamental principle – that performance must be assessed against the organisation’s strategic aims – and applies it specifically to property. However, it diverges from the balanced scorecard in a number of significant ways. While the balanced scorecard measures management opinion on a range scale, the approach adopted here is to remove the reliance on management opinion (and potential bias) and seek quantitative and qualitative indicators of facility performance from a range of stakeholders.

LGAs have a number of powerful stakeholder groups, with sometimes diverging interests and knowledge as to what constitutes facility performance. In order to provide a successful set of metrics, Logometrix must account for the viewpoints of all of these stakeholder interests.<sup>1</sup> The main stakeholder groups are:

The community, who are the end users (or customers) of the facility;

The service providers, who manage and provide services through the facility (the provider side of the client-provider split);

The facilities managers, who are concerned with the physical and financial running of facilities (often included with the provider side in organisational management, but in fact providing a service through facilities to the service providers);

Management, who make decisions about facilities and services, and who must be accountable to the community and to other levels of government. This is the client side of the client-provider split, and usually represents the policy development components of the management of the LGA.

In determining areas of strategic importance, the tool discussed here departs from the areas of strategic importance suggested by Kaplan and Norton (1992) and instead uses performance criteria relevant to strategic *facility* performance.

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<sup>1</sup> For a stimulating discussion on performance measurement using a stakeholder approach, see Atkinson, Waterhouse and Wells (1997).

## The project

Logometrix is the outcome of a collaborative project involving nine LGAs, software developers, the Institute for Social Research (Swinburne University of Technology, Hawthorn, Victoria, Australia) and UNITEC Institute of Technology (Auckland, New Zealand).<sup>2</sup> The brief was to apply the principles of corporate real estate to LGAs and develop:

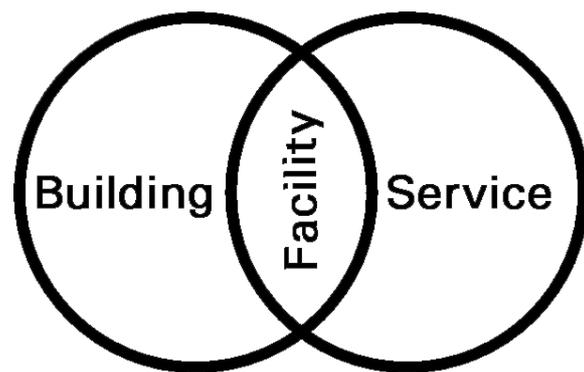
1. Performance indicators  
A uniform set of criteria and performance indicators that are generally applicable to LGA facilities without having to be customised for the type of facility or service to which they are applied, or to the particular council using them.
2. Benchmarking  
A system that enables benchmarking within the organisation as well as across LGAs.
3. Internet based software application  
A software solution for a central database that allows multiple stakeholders in LGA facilities to enter data and conduct evaluation and benchmarking of facilities over the Internet using a browser interface.

## Methodology

Logometrix used a collaborative action research approach that was grounded in a detailed analysis of LGAs' information needs regarding the strategic management of their facilities. In this 'ground-up' approach, the participants in the research were also the main stakeholders, and the issues raised during the process drove the research. This methodology is sensitive to the needs of participating industry partners and provides practically applicable outcomes and facilitates organisational learning.

The aim was to transform the process of data collection and attitudes to facility management in LGAs through a process of critical inquiry. The knowledge and expertise of council staff were utilised to inform the development of the model at every stage of the research. At the same time, the close interaction between researchers and council staff acted as a vehicle for participants to learn about the Logometrix tool and foster cultural change within the organisation.

A combination of focus groups with key stakeholders, a modified Delphi technique, face to face interviews and a workshop were used to elicit responses and 'on the ground' knowledge from research participants. In all instances, participants were selected on the basis of their expertise and knowledge about facilities, service delivery and council decision making processes. Research began with a series of focus groups designed to identify councils' strategic objectives and information requirements in relation to facility performance. This needs analysis was the basis for the Logometrix model. Because researchers felt that additional information was required about certain aspects, a workshop with facility and asset managers was conducted to collect supplementary data. Data from focus groups was analysed using a coding technique and formed



*Figure 1: The facility is the combination of the building and the service*

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<sup>2</sup> The author would like to thank following organisations: City of Port Phillip, Bass Coast Shire, City of Darebin, City of Glen Eira, City of Greater Shepparton, City of Maribyrnong, City of Melbourne, City of Moonee Valley, City of Stonnington, Xpedite Professional Services, and Nextage Systems. The ongoing support of the Australian Research Council is also gratefully acknowledged.

the basis from which a model of facility performance measurement balancing stakeholder requirements was developed.

Once a first cut of the model had been developed, it was fed back to council stakeholders for verification purposes. This was done using a Delphi questionnaire.<sup>3</sup> Responses enabled the construction of the final Logometrix model. Simultaneously, researchers worked with software developers to create the Logometrix software application.

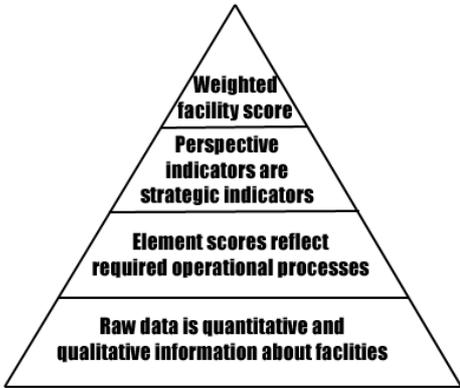
**Defining ‘facility’**

Focus groups highlighted the need for a new and commonly understood definition of ‘facility’. Participants had used the term ‘facility’ with varying meanings, sometimes referring to the building, sometimes to the service provided, and sometimes to a combination of the two. In local government, the facility physically represents the place where service provision and the building intersect (Figure1) and can be defined as follows:

- **Building** refers to the physical structure and fit-out of that structure used to house a service;
- **Service** refers to the service or program (human element) provided from the building;
- **Facility** refers to the combination of the service and building where the two are inextricably linked, as they are in reality. This includes the land, space, environment and communications that allow a particular service to be delivered from a location.

**The Logometrix model**

Based on the strategic aims and stakeholder requirements identified, the final Logometrix model balances six Perspectives of facility performance. Each of the Logometrix Perspectives is represented by a key performance indicator (KPI). These are the top-level indicators used to determine how well council facilities are performing according to the agreed upon strategic goals.



*Figure 2: Levels of data and indicators*

Underlying each KPI is a set of Element Scores. These lower level indicators capture aspects of performance that are prerequisite to achieving strategic goals. They provide more detailed information about facilities’ strengths and weaknesses. In turn, each Element Score is derived from a set of raw data which can pinpoint specific reasons for a facility’s success or failure. Together, data and indicators are a powerful tool for evaluation facility performance.

What follows is an explanation of the Logometrix Perspectives in relation to their strategic objectives and Elements.

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<sup>3</sup> Delphi is a way of structuring group communication so that it is effective in allowing a group of individuals, as a whole, to deal with complex problems using written responses. It is an iterative process that uses experts. To provide continuity, experts for the Logometrix Delphi were drawn from the focus group participants. Where participants were not willing or available, or had left their positions within council, persons with similar backgrounds were recruited (Adler and Ziglio 1996).

- *Service Perspective*  
Objective: Council aims to provide facilities that enable the effective delivery of services that are appropriate and meet the needs of the community  
Elements: transport accessibility, safety, location, disability access, equity, design and fit-out, building functionality
- *Physical Perspective*  
Objective: Council aims to provide buildings that are fit for the purpose for which they are being used  
Elements: building condition, maintenance, compliance, risk and duty of care, IT capability, flexibility
- *Community Perspective*  
Objective: Council aims to provide facilities that support and facilitate the delivery of services that meet the needs of the community  
Elements: community satisfaction, community participation
- *Financial Perspective*  
Objective: Council aims to provide facilities that are economically sustainable and are affordable to the community  
Elements: service cost, building cost
- *Utilisation Perspective*  
Objective: Council aims to provide facilities that are available to the community at times of demand and that are well utilised  
Elements: opening hours, user numbers, capacity, demand
- *Environmental Perspective*  
Objective: Council aims to provide facilities that are environmentally sustainable  
Elements: Australian Building Greenhouse Rating Scheme, energy management, recycling, waste management, building materials

### Service Perspective Indicator

Collecting standardised data on facility performance for the Service Perspective proved to be a particular challenge. Focus groups had identified seven strategically important Elements of facility performance in relation to service delivery.

1. *Transport accessibility*  
Council's objective is to provide facilities that are physically accessible to the community using appropriate modes of transport.
2. *Safety*  
Council is responsible for providing facilities that feel and are safe for employees and the community.
3. *Location*  
Council strives to locate facilities in a way that provides added benefits for users.
4. *Disability access*  
Council aims to provide facilities that are accessible to community members of all abilities.
5. *Equity*  
Council strives to provide facilities that promote equity within the community.



Figure 2: Organisational Perspectives

6. *Design and fit-out*

Council aims to provide facilities that are well designed and fitted-out for the intended uses.

7. *Building functionality*

Council aims to provide buildings that meet the requirements of users and are fit for the purpose for which they are intended.

But how could these Elements be captured in a standardised way across different types of buildings and services?

Data about facilities' service function is often of an intangible nature and cannot be expressed in dollars and metres. In order to capture this qualitative information, focus group data was used to develop a set of statements (criteria) that described each Element in relation to a vital strategic aspect of facility performance. In other words, each criterion described one aspect of a facility that was important for effective service delivery.

However, different services, for example, kindergartens and libraries, have different requirements of their facilities and are not easily comparable. Consequently not every criterion for service enablement is relevant to every type of facility. So how can a uniform set of performance criteria be applied to a diverse range of facilities? The solution is to score each criterion twice: first in relation to whether or not it is required for service provision (*functional requirement*), and second in relation to its *actual performance* ( the degree to which the facility actually supports the criterion).

**Perspectives**

- Service
  - Transport
    - Functional
    - Actual
  - Safety
  - Location
  - Universal Access
  - Equity
  - Design & Fitout
  - Building Functionality
- Physical
- Community
- Finance
- Utilisation
- Environment

**Transport**  
**Council's objective is to provide facilities that are physically accessible to the community using appropriate modes of transport.**  
**Actual Performance level**  
**1=Doesn't meet** – the facility does not meet the criterion.  
**2=Insufficiently meets** – service delivery is hampered because the facility only partly meets the criterion.  
**3=Partially meets** – the facility only partly meets the criterion, but this does not significantly impede service delivery.  
**4=Meets** – the facility meets the criterion; this feature is provided to a standard that is adequate to the service's needs.  
**5=Exceeds** – the facility exceeds the criterion; steps have been taken to provide this feature to a standard that is above and beyond the service's basic requirements

N/A		Don't Know	Actual Performance
<input type="checkbox"/>	The facility has adequate car parking.	<input type="checkbox"/>	<input checked="" type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5
<input type="checkbox"/>	The parking times are adequate and appropriate for the activities undertaken by the users of the facility.	<input type="checkbox"/>	<input type="radio"/> 1 <input checked="" type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5
<input type="checkbox"/>	During opening hours access to the facility by public transport is adequate.	<input type="checkbox"/>	<input type="radio"/> 1 <input checked="" type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5
<input type="checkbox"/>	The facility is adequately serviced by community transport (eg community bus).	<input type="checkbox"/>	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input checked="" type="radio"/> 4 <input type="radio"/> 5
<input type="checkbox"/>	Safety of bicycle access to the facility is adequate.	<input type="checkbox"/>	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input checked="" type="radio"/> 4 <input type="radio"/> 5
<input type="checkbox"/>	The facility has adequate bicycle parking.	<input type="checkbox"/>	<input type="radio"/> 1 <input type="radio"/> 2 <input checked="" type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5
<input type="checkbox"/>	The facility is close enough to the target groups it serves and the types of transport they use.	<input type="checkbox"/>	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input checked="" type="radio"/> 4 <input type="radio"/> 5
<input type="checkbox"/>	Overall, the facility's accessibility by transport is appropriate to the needs of the target groups.	<input type="checkbox"/>	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input checked="" type="radio"/> 4 <input type="radio"/> 5

Save

Figure 4: The Transport Element in the Service Perspective

The *functional* and *actual* evaluations are used in conjunction to derive the Element Score. Scoring is done as follows:

1. Scoring the *Functional Requirement*

The relevance of each individual criterion for the service is determined, that is, whether or not the criterion is needed for the service to function effectively. This *Functional Requirement* is scored by the user on a Likert scale from 1 = Not needed to 5 = Essential.

## 2. Scoring the *Actual Performance*

In a second step, the facility is assessed in relation to its *actual performance* on the criterion. A five point Likert scale from 1 = Doesn't meet to 5 = Exceeds is used. Note that the *Functional Requirement* and *Actual Performance* scales are independent of one another.

## 3. Calculating the *Element Score*

The *functional requirement* is used to identify which of the standard set of Logometrix criteria are needed to enable effective service delivery to the community. Only criteria rated 3 to 5 on the Likert scale ('desirable', 'needed' or 'essential') are considered important in this respect. Functional requirements are then collapsed into two categories:

- Not important (scores 1 = not needed, 2 = optional) – indicates that the criterion is not required to enable service delivery
- Important (scores 3 = desirable, 4 = needed, 5 = essential) – indicates that the criterion is required to enable service delivery

Any criteria rated 'not important' are not considered in further calculations, as these criteria are not important for the particular service being assessed.

Scores for criteria rated 'important' on the Functional Requirement scale are summed and divided by the number of items. This results in a value between 1 and 5, the *Element Score*. The Element Score reflects how well the facility succeeds in supporting the strategic objective of the particular service Element (e.g. transport, safety).

## 4. This is repeated for the other Service Perspective Elements.

## 5. Calculating the *Service Perspective Indicator*

Results for all Service Perspective Element Scores are summed and divided by the number of Element Scores. The resulting *Service Perspective Indicator* gives a general overview of the facility's service performance.

The Service Perspective Indicator can then be evaluated in relation to the objective of providing facilities that enable the effective delivery of services that meet the needs of the community:

1 = Poor service enablement

The building is not suited to the service's needs, and service delivery is restricted because of building related impediments.

2 = Insufficient service enablement

The delivery of community services is not facilitated and supported to the extent needed and, in some instances, may be hampered due to building related impediments.

3 = Partial service enablement

The delivery of community services is not supported and facilitated to the full extent required, but is not significantly hampered.

4 = Adequate service enablement

Service delivery is facilitated and supported to a satisfactory level.

5 = Excellent service enablement

The delivery of community services is facilitated and supported beyond the basic requirements and has added benefits for users and staff of the facility.

## **Physical, Environmental and Community Perspectives**

The Physical, Environmental and Community Perspectives are each composed of a number of Elements, which in turn are defined by a set of criteria. However, the Physical, Environmental and Community Perspectives are assessed for their *actual performance* only. The rationale is that the

criteria that describe Perspective Elements are prerequisite to facility performance regardless of the type of building or service.

Element scores are calculated by evaluating criteria in relation to actual *performance* using a five point Likert scale from 1 = Doesn't meet to 5 = Exceeds. Perspective scores are calculated by summing the Element scores and taking the average.

### Financial Perspective

Data on the facility's finance is divided into the cost of providing the building and the cost of providing the service. Figure 5 illustrates the information sought for this Perspective.

Building cost is made up of capital expenditure, fixed costs (operating expenses that generally don't vary with occupancy and have to be paid whether the property is occupied or vacant, e.g. real estate taxes, building insurance), variable costs (expenses that generally vary with the level of occupancy or the extent of services provided, e.g. property management fees, leasing fees, utilities, cleaning, air conditioning, heating, maintenance and repair of structure, grounds and parking maintenance, removal of rubbish, replacement allowance) and building income.

Capital expenditure:

- Creates an asset;
- Increases the originally assessed standard of performance or capacity of an existing asset; or
- Extends an asset to a new group of users.

It is important to distinguish between:

- Capital expenditure on additional new assets; and
- Capital expenditure on renewing or replacing existing infrastructure.

Renewal/replacement capital expenditure maintains the operating capacity of the existing asset base. It is renewal or replacement capital expenditure that should be compared with depreciation to determine whether or not the operating capacity of the asset base is being maintained.

Capital expenditure is capitalised or transferred to the balance sheet. In an accrual sense, these relate to the capital used in a particular year rather than cash expenditure incurred in the purchase of capital. For the purposes of this study, two distinct elements of capital expenditure need to be accounted for, namely, depreciation (that is, a portion of that expenditure is charged to the statement of financial performance) and the user cost of capital (the opportunity cost of funds tied up in the capital used to deliver services).

Service Costs		Building Costs	
<b>Service Expenditure</b>		<b>Building Expenditure</b>	
<b>Salaries and Wages</b>		<b>Capital Expenditure</b>	
Salaries And Wages	654.00	Depreciation	
Salary Oncosts	12.00	Opportunity Cost	
Superannuation contributions	456.00	<b>Total Capital Expenditure</b>	<b>0.00</b>
Estimated value of volunteer Labour			
<b>Total Salaries And Wages</b>	<b>1122.00</b>		
<b>Operating Costs</b>		<b>Fixed Expenses</b>	
Utilities		Real Estate Taxes	
Water		Insurance	
Gas	5513.00	<b>Total Fixed Expenses</b>	<b>0.00</b>
Electricity			
<b>Total Utilities Expenditure</b>	<b>5513.00</b>	<b>Variable Expenditure</b>	
<b>ICT</b>		Maintenance	
Phone		Cost of cyclical/planned maintenance	
Telecommunications		Cost of reactive maintenance/repairs	
IT service costs		Car park maintenance	
<b>Total ICT Expenses</b>	<b>0.00</b>	<b>Total Maintenance Expenses</b>	<b>0.00</b>
<b>Other Operating costs</b>		Other	
Security (systems, guards, patrols, operating costs, monitoring, emergency training, Activities and Programs	65899.00	Cleaning	
Training costs		Rubbish removal	
Advertising and promotions		Contract services	
Miscellaneous costs (stationery, uniforms, equipment purchases)		Air Conditioning	
<b>Total Other Operating costs</b>	<b>65899.00</b>	Grounds, horticulture, landscaping	
<b>Total Service Expenditure</b>	<b>72534.00</b>	Rent and fees	
<b>Service Income</b>		Cost of managing the building	
Subsidies	456.00	Miscellaneous	
Contributions and Donations		<b>Total Variable Expenses</b>	<b>657411.00</b>
Fees/admissions	12354.00	<b>Total Building Expenditure</b>	<b>657411.00</b>
Other Service Income		<b>Building Income</b>	
<b>Total Service Income</b>	<b>12810.00</b>	Rent and fees	456.00
<b>Total Service Cost</b>	<b>59724.00</b>	Other	50000.00
		<b>Total Building Income</b>	<b>50456.00</b>

Figure 5. Financial Perspective

Expenditure on capital improvements do not recur annually and should not be included in the annual expenses of operation. Capital improvements may enhance value by increasing the annual new operating income or economic life of the property, but the capital expenditure is not a periodic operating expense.

Service cost includes salaries and wages for providing the service as well as operating costs, subsidies provided to the service and service income. The benefit of separating the cost of providing the building and the service is that it allows for scenario planning, for example, would it be more economical if the service was provided from a another building.

### Utilisation Perspective

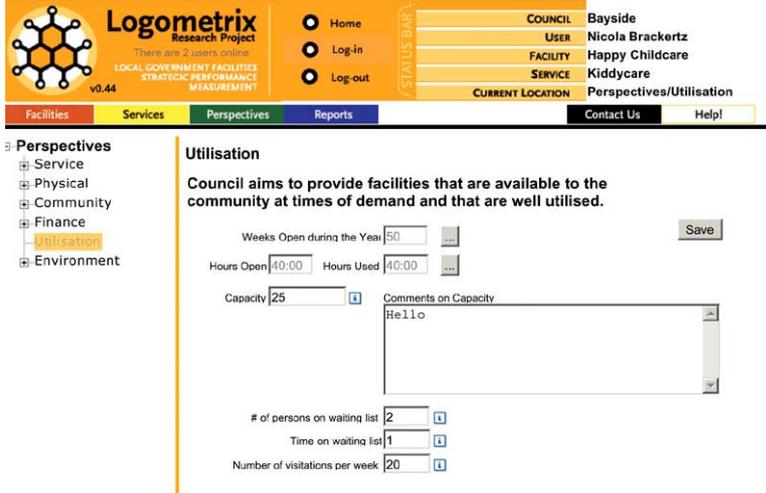


Figure 6: Utilisation Perspective

daytime usage for facilities (e.g. 8 am – 5 pm) plus five hours in the evening (e.g. 5 pm – 10 pm), seven days a week.

- *Open hours*  
 These are the hours per week the facility is actually open for use. In the case where facilities are always available, but are used only according to demand (e.g. a community hall where users can book times as required), open hours refer to the hours the facility is booked.
- *Actual hours used*  
 This is a subset of the open hours and refers to the hours per week that the facility is actually used by the community.
- *Capacity*  
 The maximum possible number of user visitations a facility can accommodate per week in relation to its gross building area and the type of service provided.
- *Demand*  
 The actual number of visitations the facility receives per week plus the number of persons on the waiting list multiplied by the number of weeks the average user spends on the waiting list.

The Utilisation Perspective shows how well a facility is used in terms of the hours it operates and how well it meets demand. Utilisation can indicate whether money is well spent on a facility. A facility’s utilisation rate is calculated using the following information:

- *Target hours of operation*  
 Logometrix uses a standard formula to calculate the target hours of operation, where optimum utilisation is set at 98 hours per week. This is based on nine hours

Working from the understanding that council aims to provide facilities that are appropriate and are well used by the community, information about utilisation is valuable for the interpretation of financial information, that is, the cost of refurbishing and maintaining premises can be justified if well utilised. Utilisation also assists in decision making about whether to extend, close or relocate a service.

## Evaluating Perspective Indicators

Each Perspective Indicator reflects a key aspect of strategic facility performance. Taken together, Perspective KPIs provide a balanced view of facility performance, which can be combined in the Overall Facility Score used for internal benchmarking. This is best illustrated by way of an example. To calculate the Overall Facility Score:

1. Each Perspective is assigned a weighting out of 100 according to its strategic importance (Figure 7). Weighting is done in relation to the organisation's strategic priorities. Each LGA can set its own weightings according to policy objectives. Weightings influence the way in which Perspective KPIs are used to evaluate overall facility performance internally, but are not considered in external benchmarking.

Perspective Indicator	Weighting
Service Perspective	40
Community Perspective	10
Physical Perspective	20
Utilisation Perspective	10
Environmental Perspective	10
Financial Perspective	10
<b>Total</b>	<b>100</b>

Figure 7: Weighting Perspectives

2. Perspective Indicators for the individual facility are compared to the benchmark. Where the Perspective Indicator for the facility meets or exceeds the benchmark, the weighting score is awarded. If the Perspective Indicator falls below the benchmark, a value of 0 is allocated. Figure 8 shows these values highlighted orange.
3. The weighted scores are then added up, thereby providing the overall weighted facility indicator score out of 100.

The Overall Weighted Score reflects the degree to which a facility has achieved the desired benchmark. This has the added benefit of allowing facilities to be ranked against others of the same type, and across facility types. Weighted Perspective Indicators provide an 'at a glance' snapshot of facility performance. A geographic grouping of indicators can identify neighbourhoods within the municipality that are over or under resourced.

Name/Tenant	Service Perspective	Physical Perspective	Community Perspective	Environmental / ABGRS	Financial Perspective	Utilisation Perspective	Overall Weighted Score
	40	20	10	10	10	10	100
Park St Centre	3.57	3.67	3.47	2.85	\$156.76	81.08%	90
Scout Hall	3.4	3	3.47	2.78	\$31.66	67.69%	80
Roseview	3.86	2.71	3.69	3.13	\$2,310.59	83.33%	70
Happy Childcare	3.82	3.88	3.71	2.78	\$965.20	65.38%	70
Benchmark	3.30	2.95	3.23	2.86	\$311.16	75.36%	54.04
Clubroom	3	3.14	3.29	2.84	\$548.70	78.27%	40
Sunnydale	3.67	1.71	2.35	3.11	-\$3,133.17	65.03%	30
Best St Childcare	2.21	2.53	2.94	2.79	\$134.92	79.11%	20
Kiddycare	2.85	2.92	2.94	2.61	\$1,474.63	83.02%	10

Figure 8: Deriving the Overall Weighted Facility Score

## Benchmarking between organisations

Benchmarking facilities between LGAs is based on the individual Perspective KPIs and not the Overall Weighted Score. The Overall Weighted Score merely reflects the degree to which the

facility has achieved the benchmark value of the Perspective Indicators. Inter-council benchmarking does not consider weightings. Rather, benchmarks for individual Perspective Indicators are used. Again, an example is illustrative:

1. Each council determines the benchmark values for the Perspective Indicators (service, community, financial etc.).
2. For each perspective, each council's benchmark values are ranked and allocated their ranking score. In our example of five councils, the City of Callan rates best on the Service Perspective and is awarded the value of 1, while the City of Bayside fares worst, being awarded a 5, with Seaside, Valley View and Outer Shire taking positions 3, 2 and 4 respectively. The same procedure is followed for all Perspective Indicators.
3. Finally, the ranking scores for the Perspective Indicators are summed for each council. The council with the lowest ranking score has performed best on the benchmarking criteria, and the one with the highest score has performed worst.

Perspec- tive Council	Service		Physical		Community		Environ- mental		Financial		Utilisation		Score	Rank
Callan	3.89	1	3.73	3	3.89	2	3.78	1	\$3,388.00	1	68.00%	5	13	1
Seaside	3.80	3	3.74	2	3.84	3	3.23	2	\$1,677.00	3	74.67%	3	16	2
Valley View	3.87	2	3.63	4	4.43	1	3.21	3	\$366.67	5	71.00%	4	19	3
Outer Shire	3.65	4	3.87	1	3.21	5	2.71	5	\$1,276.32	4	85.00%	1	20	4
Bayside	3.30	5	2.95	5	3.23	4	2.86	4	\$2,936.16	2	75.36%	2	22	5

Figure 9: Inter-council benchmarking

## Internet access

Logometrix is deployed entirely over the Internet. Consequently there is no need for councils to install software on site, nor is it necessary to implement software upgrades to individual computers. Upgrades to the system are available to all users immediately

Any authorised council user can access Logometrix from any computer that is connected to the Internet and that supports Internet Explorer v.6. Logometrix encourages contributions from multiple stakeholders and assists communication across the organisation's various business and functional areas by enabling all relevant stakeholders to access and contribute strategic information about the facility.

Facility data is confidential and is not accessible by another council. Only aggregate indicators are used for inter-council benchmarking. Tiered levels of user access privileges, ranging from full administrative authority, to data entry, to reporting or 'view only' ensure additional confidentiality.

## Case study: The City of Port Phillip

The City of Port Phillip (Melbourne, Australia) has been using a pilot model of Logometrix since 1999 and is now using the full version.<sup>4</sup> In a deliberate decision to ensure that the people and places aspects of assets were balanced, the tool has been managed by the Social and Cultural Development Division, rather than within the traditional council areas of assets and building maintenance.

<sup>4</sup> For a detailed explanation of the development of the pilot and the subsequent full model, see Brackertz and Kenley (2002a, 2002b, 2002c).

In implementing the pilot system, the council adopted a policy of considering all Logometrix indicators and referring to the model when making decisions or planning services for the community within facilities. The council anticipates that, over time, implementation of the full Logometrix system will lead to further gains in integrating service and asset management. Its further application will be enhanced by the 'whole of council' approach to a new system of sustainable asset management.

The pilot model has been valuable in providing a centralised store for a range of information on all of Port Phillip's community facilities.

For example, Logometrix has supplied information on the number of services provided from facilities and the number of people visiting them. The causes for increases and decreases in user numbers can be investigated by correlating utilisation data with other indicators that may have been contributing to such a change.

In applying the Logometrix pilot model to the planning and evaluation of maternal child health facilities during the annual capital works process, the coordinator was able to review the pilot model indicators for the building condition of all nine maternal child health centres. The model supported the case for allocating resources to a particular centre.

The model has also been useful in allowing Port Phillip to plot facilities using their Geographic Information System, incorporating the Logometrix results onto the maps. In this way, the council can see if specific neighbourhoods have possible weaknesses or strengths in particular indicators and view this spatially. The development of the council's Community Hubs Policy and Strategy has benefited greatly from this tool.

In the first year of data collection, Port Phillip was able to get a picture of how facilities rated against one another. Over the following years, Port Phillip has been able to interrogate the indicators to see how facilities have been progressing and charting changes over time.

As an example, one of the indicators in the pilot model is Community Access. This measures how well the facility and its services are matched to the needs of the community in a particular location. Each facility was rated on six factors that inform the Community Access indicator: accessibility, demographics, zoning, noise, traffic and hazards.

In applying these indicators to six senior citizens' centres over three years, the average outcome showed that whilst there was an increase and stabilisation in the overall indicator, a more detailed look at the individual centre scores showed that some had improved while others had deteriorated. Further analysis showed that there had been an increase in noise, traffic and hazards at particular centres.

The full Logometrix system, released in 2003, provides an even greater detail that informs each indicator and can therefore be used to inform decision making. For example, when allocating a building budget, do you automatically allocate resources to the building with the lowest condition, or do you allocate resources to the one with the highest number of users? Or, on the other hand, as improving a building's condition may increase the number of users, do you prioritise the one with the lowest number of users? Should you also look at the other indicators such as community satisfaction and community access? Whilst Logometrix won't make these decisions for you, it will allow you to make an informed decision that conforms to the council's priorities.

## **Conclusion**

The integrated facilities management tool developed for this study allows LGAs to evaluate facilities in relation to strategic aims. Logometrix differs from traditional approaches to facility performance measurement in that it balances tangible and intangible data and relates facility performance to the strategic goal of service delivery. Logometrix accounts not only for facility

cost, but also for functionality. This approach is particularly valuable in the case of local government where profitability is not considered as important as service delivery to the community.

In addition, Logometrix provides a benchmarking system that allows councils to weight strategic areas of facility performance and to rank facilities according to their achievement of strategic goals. In this way it facilitates comparison between facilities that are of like type, as well as those that are of from different categories.

Benchmarking, in conjunction with the three tiers of data and indicators provided by Logometrix (performance criteria, Element scores and Perspective KPIs), empowers councils to make informed strategic decisions about facilities.

More information on Logometrix is available at <<http://www.logometrix.net>> or <[info@logometrix.net](mailto:info@logometrix.net)>.

## Further research

Logometrix has been designed to meet the needs of LGAs and was developed for a not-for-profit environment. There is, however, considerable scope to apply it to a corporate environment. While the private sector is more focused on bottom-line performance, corporate organisations, too, can benefit from evaluating real estate assets in relation to their contribution to strategic outcomes.

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