
Originally published in the *Facilities*, 24 (7-8), 280-291

Available from: [http://dx.doi.org/10.1108/02632770610666134](http://dx.doi.org/10.1108/02632770610666134)

Copyright © 2006 Emerald Group Publishing Limited.

This is the author’s version of the work. It is posted here with the permission of the publisher for your personal use. No further distribution is permitted. If your library has a subscription to this journal, you may also be able to access the published version via the library catalogue.

Accessed from Swinburne Research Bank: [http://hdl.handle.net/1959.3/2875](http://hdl.handle.net/1959.3/2875)
Relating physical and service performance in local government community facilities

Nicola Brackertz

Abstract

This paper uses empirical data from a case study of two metropolitan councils in Melbourne, Australia. Both are committed to the strategic management of their community facilities to maximise service outcomes for their constituents. To this end they implemented a strategic tool to measure the facilities' performance, using key performance indicators. The data indicates a statistically significant correlation of the performance of the physical building and the quality of the service delivered from it, supporting the hypothesis that better physical facilities engender better service outcomes. The implications are that the strategic planning for buildings and services should be undertaken in concert to maximise the enabling effect the physical building has on service performance. While this study concentrates on council buildings, the findings may be equally applicable to other service businesses. This paper has implications for the way facility management practice should be undertaken and fills a knowledge gap about the effect which the quality of the physical surrounds has on the processes taking place within.

Keywords: Local government; Australia; Performance management; Service delivery; Communities.

The research problem

Using empirical data, this paper investigates the contribution which the physical performance of community facilities in local government makes to the strategic aim of delivering high quality services from those facilities. Two metropolitan councils in Melbourne, Australia are presented as case studies. Both are committed to the strategic management of their community facilities to maximise the service outcomes for their constituents. To this end, in the 2002/2003 financial year, they implemented a system to strategically measure the performance of their community facilities using a set of key performance indicators (KPIs). The management tool, Logometrix, is used to collect data on service delivery, physical, community and environmental performance, as well as utilisation and finance, for a range of community facilities. In conducting the two case studies, the author is primarily interested in the relationship between the indicators for service and physical performance and the implications for resource allocation. The questions are “Do better facilities contribute to the delivery of better services?” and “What are the implications for resource allocation?”. While local government operates in its own unique context, the insights gained are transferable to the wider discipline of facilities management, especially where the community or customer service is of strategic importance.
Background

Private as well as public sector organisations now recognise the contribution which real estate makes to business outcomes (Joroff et al., 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 strategic aims in a proactive way, rather than being confined to the traditional role of providing space as the need arises – a reactive approach (Alexander, 1996; Englert, 2001).

Traditional measures of property performance are primarily financially based. Popular metrics relate occupancy cost to $m^2$, 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 a percentage of total space, $m^2$ per person, subleased space as a 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 do not capture the contribution made to the organisation’s desired strategic outcomes. This is particularly relevant when strategic aims are focused on enabling operational processes and providing high quality services, such as in local government. The connection between high quality facilities that meet the operational requirements of the processes taking place within them, and the delivery of high quality services, has not been fully explored.

**Strategic management of property in local government**

In Australia as elsewhere around the world, local government is faced with tightening restrictions on resources, and simultaneously increasing demand for effective and accountable services, coupled with diminishing public trust. Local government authorities (LGAs) use their facilities to conduct their core business, namely, providing services to the community in a timely and appropriate way. Local government functions typically include infrastructure and property services; waste collection and management; provision of sports and recreational facilities; health services; community services such as child care, aged care, community care and welfare services; planning and building services and approval; and, increasingly, environmental services. Because they are the custodians of public assets, LGAs do not usually have the flexibility to easily divest themselves of properties that do not meet their strategic requirements and invest the revenue to acquire more suitable premises. Rather, the property portfolio ranges from older and heritage buildings, which are expensive to maintain and which may no longer be used for the purposes for which they were originally intended, to single use facilities, as well as “state of the art” multi-purpose facilities.

An LGA’s primary strategic objective is not to generate profits from its property assets, but to meet the needs of the community and to act as the custodian of public assets. The challenge in managing real estate in local government, then, is to balance the requirements of maintaining and preserving public assets while providing appropriate and high quality services which meet the needs of the community. However, fixed asset management systems do not capture the service related information required to make informed strategic decisions about prioritising resource allocations to improve service delivery. Additional complexity is added by the requirement that LGAs use transparent processes and be accountable to their citizens when making decisions. Good governance processes are essential to gaining and maintaining public trust and to justify decisions made about the expenditure of public funds.
Historical context

Historically, LGAs delivered services to property, but now their role has expanded to delivering a wide range of services to the community. Under conservative state Liberal government in the 1990s, LGAs in Victoria underwent radical reforms and restructuring which included the redrawing of municipal boundaries and a program of amalgamations where 210 LGAs were reduced to just 79. Compulsory rate reductions of 20 per cent were coupled with rate capping, corporate planning and annual reporting procedures, introduction of a Charter of Service, benchmarking of services, and reviews of local laws and compulsory competitive tendering. The implications for property management were a reduction of the funding base and, perhaps more significantly, a reshuffle of the property portfolio. Many LGAs found themselves in possession of multiple town halls and libraries and other facilities that doubled up on the services required and were no longer needed for their original purpose or were no longer strategically located. Tough decisions had to be made about whether it was in the public interest to retain these facilities, and how and for what purpose to use them.

In late 1999, a new state Labor government was elected and promptly replaced compulsory competitive tendering with the new Best Value regime and removed the rate caps. This shifted the state government's attitude to local government from oversight to “better democracy”. The emphasis now was on enhanced service delivery and public accountability. Performance measurement was now driven by a desire to identify the benefits, not the costs. This also impacted on management practices, as facility managers strove to reconcile the often competing directives of preserving asset value and enabling service delivery through facilities. It was in this context that nine Victorian LGAs collaborated with researchers from Swinburne University of Technology to develop a web enabled tool (named Logometrix) that would allow community facilities to be measured strategically and evaluate service delivery through council facilities.

The Logometrix tool

The resulting Logometrix system provides participating LGAs with a software tool that is delivered over the internet and allows internal benchmarking of facility performance and strategic decision making about facilities (for the development and principles underpinning the Logometrix tool, see Brackertz and Kenley, 2000, 2002a, b, c; Brackertz et al., 2002; Brackertz, 2004). Logometrix treats the facility as the conjunction of the building and the service delivered from it (Figure 1). Service, physical, environmental, community, utilisation and financial perspectives of facility performance are balanced and each is represented by a KPI (Figure 2). These are the top-level indicators used to determine how well council facilities are performing according to the agreed upon strategic goals.

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. Financial perspective captures raw data related to the cost of providing the building and the service. Utilisation perspective is collected in terms of user numbers, capacity, time on waiting list and open hours. The other perspectives capture data for each element using a set of “criteria” which are predefined statements about the facility’s performance, are based on extensive research with councils during the development process. Each criterion is evaluated on a scale from 1 to 5 where higher values reflect better performance (for a full discussion of how data is calculated, see Brackertz, 2004).

Together, data and indicators are a powerful tool for evaluating facility performance.

What follows is an explanation of the Logometrix perspectives in relation to their strategic objectives and elements:

1. 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.

2. 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.

3. 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.

4. Financial perspective:
   - Objective: Council aims to provide facilities that are economically sustainable and are affordable to the community.
   - Elements: service cost, building cost.

5. 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.

6. 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 (Figure 3).

**Stakeholders**

LGAs have a number of powerful stakeholder groups, with sometimes competing interests in facilities. The main groups are:

- Facilities managers, who are concerned with the physical and financial running of facilities.
- Service managers, who provide services through the facilities.
- The community, who are the end-users and have a vested interest in public assets.
The contribution and buy-in of all stakeholders is critical to the success of a strategic model of facilities management (Walters, 1999; Atkinson et al., 1997). Logometrix is designed to capture information from all stakeholders in council facilities. Nevertheless, most councils operate using a “silo” structure where those involved in the planning and management of services frequently have little or no contact with those managing and planning property and buildings. This may create a climate of distrust where areas within council are averse to or disinterested in information sharing, and lead to sub-optimal planning outcomes which in turn may inhibit the delivery of the best possible services to the community. Resources cannot be optimally allocated because decision makers have incomplete information.

**Data collection**

When implementing Logometrix, a council assigns a person to be responsible for its administration, overseeing the collection process and verifying information to ensure consistency and completeness of data. This is advantageous because data is sought from multiple stakeholders in each facility, including facility managers, service managers, committees of management in the case of community managed facilities, and frequently the finance department. Information from councils’ consultation processes with the community is also included. Collecting data from multiple stakeholders ensures that information about facilities that is held by council silos is shared to enable a full assessment of facility performance.

The various stakeholders have access to the Logometrix system using the web interface, which allows for distributed data collection with a minimum of inconvenience to users, as data can be input from any web-connected computer (Figure 4). Alternatively data may be collected using a paper-based questionnaire. This method has advantages when respondents have low computer skills. Once completed in the hard copy, the administrator then inputs the data into the system.

**Case study**

This paper presents an analysis of data from two councils that are currently using Logometrix in an attempt to discover how the physical and service performances relate to one another. Both are major councils in the Melbourne metropolitan area and both are custodians of a very large amount of buildings and land. Their properties are held for a wide variety of purposes and are often managed on strategic, maintenance and operational levels by different work areas of council. In both councils, there was a level of inconsistency between the way various properties were handled, access to shared information was sometimes restricted and sometimes information was not recorded in a systematic manner at all, and networking between areas was limited. Consequently, strategic planning for services, which rely on council properties, was often done in isolation from the strategic planning for property services. It was hoped that Logometrix would assist in addressing these issues.

An interesting point of difference is that Council A chose to implement and manage the system through its Facilities Management Branch, while Council B is running it through its Social and Cultural Development Division rather than within the traditional areas of assets and building maintenance. In implementing the pilot system, Council B adopted a policy of considering all Logometrix indicators and referring to the model when making decisions or planning services for the community within facilities. This was not the case for Council A.
Both councils use an annual data collection cycle that is aligned with the financial year to collect and analyse data and implemented the full system in 2002/2003.

Each council collected data for the 2002/2003 (hereafter 2003) and 2003/2004 (hereafter 2004) financial years. Data was collected for all six Logometrix perspectives on a variety of community facilities (Table I). In exploring the data, the relationships between the physical and service perspective indicators were of particular interest as we were seeking to discover whether facilities that provided a good physical environment enabled the delivery of better services. For the purposes of this paper, we will concentrate on these two variables.

**Limitations of data**

There are some limitations on the available data as then number of facilities included is not very large and the time horizon extends over only two years. There may be inconsistencies in the way data was collected between each council, and not all facilities have data for both years. However, data collected is sufficiently robust to treat the case studies as indicative and allow them to be used as the precursor to a larger and more comprehensive study.

**Comparing physical and service performance between councils**

Initially we compared the indicator means for each council by year (Figure 5). To ensure comparisons were valid, only facilities for which data was available for both years were included. Remarkably, Council A had a lower mean for the service indicator than for the physical indicator in both years, while for Council B the opposite was the case. This posed some interesting interpretative conundrums. Perhaps the facilities of Council A were better than the facilities of Council B, and perhaps the services provided by Council B were better than those of Council A. However, given the general characteristics of the two councils, this is unlikely.

A more likely explanation is that as Council A implemented Logometrix through its Facilities Management Branch, it may have been more likely to score the physical performance of its facilities higher, while evaluating services lower. Council B coordinated data collection and implementation through its Social and Cultural Development Division and may therefore be more likely to score services higher than the physical performance of facilities.

**Do better buildings enable better service delivery?**

To explore the relationship between the physical and service perspective indicators, a Pearson's $r$ test was conducted, which gives a measure of the degree to which there is a relationship between variables. Each facility was treated as an individual case, regardless of the year in which the data was collected or to which council a facility belonged, providing a sample size of $n=198$ facilities. A probability of anything less than 0.05 ($p$) or lower was considered to be statistically significant. The result showed a statistically significant ($p<0.001$) positive correlation ($r=0.626$). This is evidence of a strong positive correlation where 39 per cent ($R^2=0.391$) of the value of the service indicator (the dependent variable) is attributable to the value of the physical indicator. This result would point to the fact that facilities that perform physically better engender better service outcomes.
This was an interesting result, and it was decided to investigate whether there were differences between the councils and years. Pearson's $r$ test produced the following results shown in Table II.

Three of the data sets (Council A 2003, Council B 2003 and 2004) showed a positive correlation that was statistically significant at the 0.01 level of probability, and the other (Council A 2004) showed a positive correlation statistically significant at the 0.05 level. This provides further evidence that there is indeed a relationship between the physical indicator and the service indicator.

This supports an argument that there is a strong positive linear relationship between physical indicator and service indicator score; that is, better physical performance scores are coupled with better service performance scores, while lower physical performance scores are coupled with lower service scores.

**Does a change in building performance lead to a corresponding change in service provision?**

The next step was to investigate whether a change in the physical indicator from one year to another would lead to a corresponding change in the service indicator over time. Only facilities for which data was available for both years were included in the analysis, giving a sample size of 76. The change in physical indicator scores from 2003 to 2004 and the change in service indicator scores from 2003 to 2004 were calculated. The Pearson's $r$ test was then applied using the physical change score as the independent variable to discover whether this would affect the dependent service change variable.

In the first instance all change scores, regardless of council, were tested. This showed a positive correlation ($r=0.224$) that was statistically significant ($p<0.05$). In other words, a change in the physical indicator for a given facility affected a corresponding change in the service indicator over time.

To discover whether this would also be true if the data was analysed separately for each council, we conducted a further Pearson's $r$ test, with the following results shown in Table III.

This was again an interesting result, as it showed a positive correlation between the change in the physical indicator and the service indicator over time that was significant at the 0.01 level for Council B. This is a strong relationship where it is shown that 22.2 per cent ($R^2=0.222$) of the variance in the service indicator can be attributed to the change in the physical indicator.

Council A presented an altogether different picture. Pearson's $r$ indicated that there was a degree of negative correlation between the variables. However, the probability of this was not significant ($p>0.05$). This could mean that an increase in the value of the physical indicator score in fact caused a decrease in the value of the service perspective score. However, the probability was not statistically significant, therefore we must conclude that for Council A there is no demonstrable effect of a change in physical indicator on the service indicator over time.

These results pose some interpretative difficulty. The bulk of the evidence points to the fact that there is a demonstrable positive relationship between the physical performance of facilities and the services provided from them. However, an investigation of whether change in physical performance over time affects service
performance over time turned out inconclusive. Data for Council B provided strong
evidence of a statistically significant relationship, while data for Council A was
inconclusive. There are a number of possible explanations. It may be that there is a
time lag for the effects of improvement in the physical performance to become
evident in improved service performance. It is conceivable that building works to
improve a facility could negatively affect service provision in the short term, but
provide benefits over time. Our data extends only over two years and therefore may
not fully capture the flow-on effect. It is also possible that due to the differences
between the Facilities Management Branch and the Social and Cultural Development
Division in Councils A and B, respectively, data for the physical and service
perspectives was not collected consistently for both councils. It is also possible that
differences in council culture and attitudes account for the variance in results.

Conclusions and future trends

The case study of physical and service performance of community facilities in two
councils showed some interesting results and raised some intriguing questions. It
was shown that there is a statistically probable effect of the performance of the
physical building on the quality of the service delivered from it. This means that better
buildings do indeed enable the delivery of better services. But the question of
whether a change in building performance leads to a corresponding change in
service provision could not be answered with certainty from the available data,
although there is some evidence that this may be the case.

An overall comparison of how community facilities performed using the physical and
service indicator means showed that, in both years, Council A had rated its services
lower than its buildings, while Council B had rated its services higher than its
buildings. This may reflect the differing opinions held by facilities management and
services areas about how buildings and services are performing within each council.
From its point of view, the Facilities Management Branch, which administers
Logometrix in Council A, may be more likely to evaluate buildings under its
management as performing well, while services are given less priority. In Council B
the Social and Cultural Development Division coordinates data collection and,
coming from the service angle, may have evaluated buildings as performing less well
for their needs, while the services provided from the buildings were rated more
highly.

While this research is based on a case study approach and the results cannot be
generalised without a degree of caution, there are a number of implications for
resource allocation in councils. There is clearly a need that information about
buildings and services and their requirements be shared between administrative
areas within councils. Because the quality of physical building stock affects the
quality of the services provided, strategic planning for services, which rely on council
properties, should be done in conjunction with the strategic planning for property
services. Communication across councils' administrative silos is important to
maximise outcomes for the community, and should be actively encouraged.
Information sharing and transparency of decision making is not just important to be
accountable to the public, but also to make the best possible decisions about how to
get the best return from ratepayers' money in the form of excellent services.
Figure 1: The facility is the junction of building and service

Figure 2: Six perspectives of facility performance
Figure 3
Levels of data and indicators

- Raw data is quantitative and qualitative information about facilities
- Element scores reflect required operational processes
- Perspective scores are strategic indicators
- Weighted facility score
Transport
Council's objective is to provide facilities that are physically accessible to the community using appropriate modes of transport.

**Functional requirement scale**
1=Not needed – this criterion is not required of the facility,
2=Optional – this criterion could add value but is not essential to service delivery,
3=Desirable – this criterion is desirable to enable a satisfactory standard of service delivery,
4=Needed – this criterion is necessary for satisfactory service delivery,
5=Essential – the service can’t be delivered without this criterion

<table>
<thead>
<tr>
<th>N/A</th>
<th>Don't Know</th>
<th>Functional Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>☑ The facility has adequate car parking.(1)</td>
<td>☐</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>☑ The parking times are adequate and appropriate for the activities undertaken by the users of the facility.(2)</td>
<td>☐</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>☑ During opening hours access to the facility by public transport is adequate.(3)</td>
<td>☐</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>☑ The facility is adequately serviced by community transport (eg community bus).(4)</td>
<td>☐</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>☑ Safety of bicycle access to the facility is adequate.(5)</td>
<td>☐</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>☑ The facility has adequate bicycle parking.(6)</td>
<td>☐</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>☑ The facility is close enough to the target groups it serves and the types of transport they use.(7)</td>
<td>☐</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>☑ Overall, the facility’s accessibility by transport is appropriate to the needs of the target groups.(8)</td>
<td>☐</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

**Figure 4** The transport element in the service perspective

**Comparison of Indicator Means**

<table>
<thead>
<tr>
<th></th>
<th>Service Indicator (Mean)</th>
<th>Physical Indicator (Mean)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>3.38 3.43</td>
<td>3.39 3.43</td>
</tr>
<tr>
<td>2004</td>
<td>3.50 3.23</td>
<td>3.55 3.21</td>
</tr>
</tbody>
</table>

**Figure 5** Comparison of service and physical indicators (mean)
Table I: Case study details

<table>
<thead>
<tr>
<th>Council</th>
<th>Year</th>
<th>n</th>
<th>r</th>
<th>P</th>
<th>Based on $R^2$ (per cent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>2003</td>
<td>38</td>
<td>0.685</td>
<td>0.000</td>
<td>47</td>
</tr>
<tr>
<td></td>
<td>2004</td>
<td>36</td>
<td>0.345</td>
<td>0.039</td>
<td>12</td>
</tr>
<tr>
<td>B</td>
<td>2003</td>
<td>45</td>
<td>0.661</td>
<td>0.000</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>2004</td>
<td>70</td>
<td>0.778</td>
<td>0.000</td>
<td>61</td>
</tr>
</tbody>
</table>

Table II

<table>
<thead>
<tr>
<th>n</th>
<th>r</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>32</td>
<td>-0.064</td>
<td>0.729</td>
</tr>
<tr>
<td>44</td>
<td>0.472</td>
<td>0.001</td>
</tr>
</tbody>
</table>

Table III

References


government: managing for service enablement", Journal of Facilities Management,

Brackertz, N., Kenley, R. (2002b), "Moving towards an integrated facilities
management tool to evaluate facilities for service performance in local government,
Symposium on Facilities Management and Maintenance: Applying and Extending the
Global Knowledge Base, Glasgow, .


outcomes: CRE in the Australian private and public sectors", Pacific Rim Property

Englert, J. (2001), The Strategic Alignment Handbook: A Corporate Infrastructure

Joroff, M., Louargand, M., Lambert, S. (1993), Strategic Management of the Fifth
Resource: Corporate Real Estate, IDRC, Atlanta, GA, .

Nourse, H.O., Roulac, S.E. (1993), "Linking real estate decisions to corporate

Walters, M. (1999), "Performance measurement systems: a case study of customer