

Gary Crilley

is Director of the Centre for Environmental and Recreation Management (CERM), a research centre based at the University of South Australia.

Duncan Murray

at the time of writing this paper was a researcher with the CERM Performance Indicators[®] project and is now a lecturer at Griffith University, Australia.

Gary Howat

is the Head of the School of Environmental and Recreation Management (ERM).

Heather March

is a staff member on the CERM Performance Indicators[®] project.

Darren Adamson

is a lecturer within the ERM.

Keywords:

customer service quality, golf, operational management, performance indicators

Gary Crilley
Director, CERM
University of South Australia
School of Environmental and
Recreation Management
Mawson Lakes Campus
South Australia 5095
Australia
Tel: +61 8 8302 5163
Fax: +61 8 8302 5082
E-mail: gary.crilley@unisa.edu.au

Measuring performance in operational management and customer service quality: A survey of financial and non-financial metrics from the Australian golf industry

Gary Crilley, Duncan Murray, Gary Howat, Heather March and Darren Adamson

Received: 4 October 2002

Abstract

There are over 1,500 golf courses in Australia, of which almost 400 are publicly owned. These courses are the focus of a large and vibrant industry, with an estimated turnover of A\$365m per year. Furthermore, Australian Bureau of Statistics (ABS) surveys regularly place golf in the top three sports and physical activities participated in by Australian adults. The major form of external performance measurement of golf courses is a subjective list of experts' perceptions of the 'top 100 golf courses'. Internally, the financial bottom line of profit and loss statements is usually the only other item on the course 'scorecard'. Little has been done in terms of developing performance indicators that are applicable for widespread external use in golf course management. The research reported in this paper has addressed this lack of external performance measures with the development of performance indicators that are applicable for use in the operational management of golf courses. The first phase of the study concluded in 1999, and was funded by the CERM Performance Indicators (CERM PI[®]) project based at the University of South Australia and a number of Australian local government councils and industry partners. A total of 41 performance indicators were developed to represent financial and non-financial areas of operational management, plus 21 attributes of customer service quality. This paper also reports on limitations identified during the trialing of the instruments and protocols, and makes recommendations for ongoing research.

INTRODUCTION

Since its origins in the 17th century, golf has become a worldwide multi-billion dollar business. In Australia there are over 1,500 golf courses, with surveys indicating that almost half a million people

participate in golf as a leisure pursuit.¹ ABS survey findings place golf in the top three sports and physical activities for Australian adults. It is also one of the most frequently participated in sports and physical activities away from the home. Golf and associated facilities and services are part of a large and vibrant industry, with a conservative estimate of turnover at A\$365m per year.²

The operational success of golf courses in Australia is commonly assessed via limited criteria. The major form of external performance assessment used is a subjective listing of the ‘top 100 golf courses’. This list is usually compiled by industry experts and is made up of their considered perceptions of courses as a playing venue. The listing of courses is not always endorsed in any official capacity, and is commonly disputed by peers and others involved in the sport (as staff or participants). Internally, the financial bottom line of profit and loss statements is usually the only other item on what is increasingly regarded as an incomplete ‘scorecard’.³ Given the level of capital assets and revenues involved in courses, as well as the number of participants, this may be regarded as a very limiting reporting mechanism.⁴ Consequently, it was proposed that managers and owners of golf courses could benefit from more useful diagnostic performance management information for golf courses that can be seen to be reliable, cost-effective, relevant and applicable.

The study being reported is the first in the process of providing improved diagnostic management information to managers and owners of golf courses across Australia. It is the outcome of research established to develop cost-effective performance indicators of public golf course operation. Collaborators in the study are identified in Table 1.

Although this paper is intended for, and has implications for, all people interested in the operation of golf courses, the focus is on the 400 courses owned by the public sector.⁵ Feedback from staff and customers, as well as a review of the relevant literature, led to an initial focus on two components of golf operations: customer service quality (CSQ) and operational management (OM). Reasons for this focus included:

- the need for relevant, actionable management outcomes for managers
- applicability to management decision making
- cost-effectiveness

Operational management

Table 1: Collaborators in the development of CERM PI[®] performance indicators for golf courses

• ACT Bureau of Recreation, Sport and Racing	• City of Melbourne	• Sports Australia
• City of Adelaide	• City of Onkaparinga	• West Beach Trust
• City of Botany Bay	• City of Stonnington	• City of Port Adelaide/Enfield
• City of Maroondah	• S. A. Office of Recreation, Sport and Racing	• City of Wollongong

- previous experience of the CERM PI[®] team
- the lack of current availability of performance measures for golf courses.

Best practice, best value

With an increasingly restricted and accountable public purse, public sector services are required to monitor, correct and report more closely on their own performances.^{6,7} This new public management includes assessing and improving performance across the range of management and service delivery functions. Growing competition for the more articulated and changing expectations of customers has also resulted in an increasing urgency for organisations to identify strategies that may give them a performance advantage. Many organisations now recognise that an emphasis on service quality and the development of a customer focus are essential elements in achieving a best-practice and best-value approach to operations. This recognition of customer assessment is consistent with a major principle of total quality management (TQM), where the customer defines quality. TQM is also the basis of the growth in interest in performance management tools and techniques such as benchmarking,⁸⁻¹⁰ identification of best practice and service quality measurement.¹¹ These principles and methods have also been identified as appropriate for use by the public as well as the private sector.^{12,13}

The incorporation of better performance measurement is a core of TQM principles. An example of increasing acceptance of this is apparent in the development and use of performance indicators and measures for public sports and leisure centres since the early 1990s. A collaborative venture led by CERM has resulted in turn in increasing usage of common forms of performance indicators and management information applicable for a number of sectors in the leisure industries.^{14,15} External benchmarking across service providers in the field is now possible with valid and reliable processes that are underpinned by the ethical standards and confidentiality requirements of a university research centre.

Demands for performance information

The Public Services Department in Salt Lake City in the early 1990s recognised the need for performance management of municipal golf courses. Prototypes of performance indicators for public golf courses, such as ‘number of rounds per week’, were discussed by management staff of golf courses. While few staff believed that useful data for management decision making could be obtained from subjective responses from users of the courses, it was increasingly recognised that there was a need for development of performance measures in the industry. Within Australia there appears to be a lack of generally accepted and publicly available performance measures. The study being reported is an attempt to address this deficiency with the development of performance measures that are applicable for use in the OM of public golf courses.

Aims of the study

Based on the previously outlined state of play and demands for performance information for public golf courses, the aims of the study were to:

- identify and/or develop performance indicators relating to consumer perceptions of the course, including tangible and service delivery components
- identify and/or develop performance indicators/measures relating to OM
- ensure all indicators can be used in a cost-effective manner, provide actionable outcomes and provide the potential for both internal and external benchmarking
- involve industry input and information sharing with those industry collaborators involved in the study.

Phases of the study

The study built on experience gained through existing applied research by CERM into the development of performance indicators for public sports and leisure centres. The study consisted of seven phases.

- Securing active applied research collaborators involved in golf course management.
- Conducting a detailed literature review of existing evaluation tools and measures currently in place for golf courses, both nationally and internationally.
- Conducting focus group sessions involving managers, staff and customers at courses across Australia, in order to generate qualitative data that could be incorporated into the final research instruments.
- Development of draft questionnaires based on information from the first and second phases.
- Generation of performance indicators for both OM and CSQ.
- Preparation of individual and final study reports for industry collaborators.
- Developing strategies for making actionable outcomes (questionnaires, benchmarks) available to the industry sector.

Focus group

Questionnaire

Initial questionnaires were trialed over an 18-month period with eight public golf courses across Australia. CSQ questionnaires were completed at all courses, while OM information was gathered from four sites. Although future instruments will allow some site-specific modification, all sites in the trial study used identical questionnaires and protocols for both OM and CSQ.

OM performance indicators

OM aspects were identified as an essential area to develop as performance measures for public golf courses. OM indicators

developed were based on:

- previous CERM PI[®] experience
- relevant literature relating to indicators in golf courses
- focus groups with managers, staff and customers of the golf courses.

Performance indicators for OM were grouped to cover five major aspects of centre management: services and participation, marketing, human resources, finance and facilities. Each of these areas included a number of indicators focusing on specific aspects of the operation area. Data for OM indicators were collected via self-administered questionnaires sent to managers of the golf courses.

The next phase was to develop indicators that would provide meaningful information to managers, as well as allow comparison (benchmarking) over time between golf courses. It was considered that ratios fulfilled this requirement most appropriately, as they allowed for comparison over time and between slightly different courses whereas, in many contexts, raw figures would have made comparisons relatively meaningless. It was also decided that the questionnaire must be as practical as possible for managers to follow in order to facilitate the collection of accurate information. Questionnaire design, therefore, focused on collection of raw data from managers, with indicator ratios calculated from these raw data. This method is consistent with that used in the CERM project for public sports and leisure centres, and has been used in similar projects throughout the 1990s.

Customer service quality

CSQ performance indicators

Performance indicators for effectiveness were based on identification of critical facets of service operation that were considered to be important by customers. Twenty-one service quality attributes for sports and leisure centres were derived from the focus groups held at selected golf courses across Australia. This process is consistent with that used by the CERM PI[®] project for public sports and leisure centres, as well as other researchers who also generated service attributes from focus groups of leisure centre customers and managers.¹⁶

The scale used to measure the attributes was based on the ServQual model, where expectation figures are subtracted from performance figures in order to generate a service quality 'gap'.¹⁷ A biased six-point Likert scale, ranging from 1 = 'disagree' to 6 = 'very strongly agree', was used for both expectations and performance measures for each attribute of service quality, with a 'don't know' option only provided for the section asking for an assessment of performance.

CSQ information was collected through use of a questionnaire that customers completed on site, and preferably prior to commencing their golf round or activity. The final design of the

CSQ questionnaire incorporated four sections:

- Section A (expectations)
- Section B (performance) focused on service quality assessment
- Section C on socio-demographics and usage patterns of respondents
- Section D on problems experienced and their resolution, and customer recommendation levels.

Attributes of service

The CSQ indicators include 21 separate attributes of service that measure customers' expectations compared to their perceptions of the centre's actual performance in such areas as staff responsiveness, appearance of the facilities, course quality, customer behaviour and etiquette and value for money. Section A requests customers to identify their expectations relating to each of the individual attributes, while Section B requests them to rate the performance of the course on each of the same 21 attributes. Service quality is then calculated for each attribute via gap analysis (performance versus expectations). Wording of the 21 attributes is intended to measure CSQ at a macro level. Consequently, the 21 attributes are broad — for example, 'Facilities should always be clean' and 'The parking area is very safe and secure (cars, bikes etc)'. The generic nature of these attributes is intended to reduce respondent fatigue in completing the questionnaire. In turn, analyses of the service quality attributes allows managers to focus on individual attributes by incorporating 'tracking' processes to determine what specific aspects of an attribute are a problem or a strength for their course, and for which specific target groups. The CSQ questionnaire also helps to identify problems encountered by customers and the impact of these on levels of customer satisfaction. Customers were asked whether they had experienced a problem with any aspect of the golf course. If they had encountered a problem they were requested to note what it was, whether they reported it and if the problem was resolved to their satisfaction. Additionally, a market action item asks customers whether or not they would recommend the golf course to other people.

DISCUSSION OF THE RESULTS

A full list of performance indicators for OM is provided in Table 2. These indicators can be used by managers to monitor their centre's internal operations from one year to the next. As well as this internal benchmarking, managers in the future can also compare their course's operating results with those of similar types of courses while still maintaining confidentiality. CERM intends to publish a range of annual indicators for groupings of similar golf courses in a form akin to previous studies that may facilitate quality management for collaborators and the wider leisure industry sector.¹⁸

Table 2: Performance indicators for OM (golf courses)

Marketing	Finance	Human resources	Services and participation
<ul style="list-style-type: none"> ● Promotion cost share (%) ● Promotion cost per hole ● Research cost share (%) ● Research cost per hole 	<ul style="list-style-type: none"> ● Expense recovery (%) ● Sponsorship share (%) ● Manager contribution ● Insurance cost change 	<ul style="list-style-type: none"> ● Labour cost to total receipts (%) ● Labour cost share (%) ● Labour cost per hole ● Training to payroll cost (%) 	<ul style="list-style-type: none"> ● Rounds per hole ● Programme opportunities ● Catchment multiple ● Visits per indoor square metre
<ul style="list-style-type: none"> ● Facilities ● Maintenance cost share (%) ● Maintenance cost per hole ● Energy cost share (%) ● Energy cost per hole ● Equipment value per hole 	<ul style="list-style-type: none"> ● Insurance cost to visits (%) ● Downtime ● Surplus/(-)subsidy per visit ● Surplus/(-)subsidy per hole ● Secondary spending ● Total receipts per hole ● Fees per visit 	<ul style="list-style-type: none"> ● Payroll to labour cost (%) ● Volunteer/total labour (%) ● Turnover to total staff (%) ● Staff gender equity (%) ● Staff absenteeism/total staff (%) ● Staff accreditation/requirements (%) 	<ul style="list-style-type: none"> ● Registered visits share (%) ● Direct visits share (%) ● Casual visits share (%) ● Participant excellence ● Overall satisfaction

Summary profile of course users and usage patterns

The following profile of the course users and usage patterns was determined from the combined sample of 867 respondents who completed the CSQ questionnaire at all eight golf courses:

- the courses appear to be dominated by male users (83 per cent)
- only 5 per cent of users were born in non-English-speaking countries
- age categories are fairly evenly represented, although older adults represent a large proportion of the total user market (36 per cent of respondents were over 50 years of age)
- 74 per cent of respondents refer to themselves as ‘regular’ users, with 26 per cent reporting being course members
- visitation is highest in the mornings (70 per cent), with 45 per cent of customers attending for less than three hours per visit
- 34 per cent of respondents attend their course at least four times per month
- 59 per cent of respondents attend their course on weekdays
- 74 per cent of respondents participate in casual or social golf when at the course
- 77 per cent of respondents visit their golf course with a friend
- 92 per cent of respondents travel to their course by car
- 43 per cent of the respondents surveyed travel less than five kilometres from home to attend their course.

Of particular interest for managers of public golf courses is the nature of the profile of customers in this sample. It should be noted that individual managers are encouraged to examine the customer profiles of their own courses in order to identify any specific features of concern or interest.

A concern identified in the customer relations section is the generally poor resolution of problems at these golf courses (Table 4). Only 16 per cent of customers who stated that they had reported a problem had it resolved to their complete satisfaction. Effective resolution of problems can foster customers’ perceptions of responsiveness and service quality; possibly resulting in the creation of strong word-of-mouth advocates for the course. Alternatively,

Problems resolved

Table 3: Customer recommendation levels

Level of recommendation	%
Strongly recommend	24
Recommend	68
Not recommend	7
Strongly not recommend	1

failure to address customers' problems adequately may result in a loss of customers and negative word-of-mouth publicity about the course.¹⁹ Respondents overall were only slightly satisfied with their golf course, based on the 'overall satisfaction' mean of 4.6 (slightly satisfied) on a scale of 1 (very dissatisfied) to 7 (very satisfied).

General perceptions by respondents of public golf courses

Combined CSQ figures indicated general commonalities across the sample of golf courses surveyed. In particular, 'tangible' aspects of service (those areas of service that are seen or affect the senses) consistently recorded larger CSQ gaps than other service dimensions. The most negative aspects (attributes) of visits to golf courses in this survey are summarised in Table 5.

The 'behaviour of other patrons' was also cited as a common problem across the golf courses involved in the survey (CSQ gap = -1.7). This is of key importance to managers of golf facilities as it indicates that customer interaction, often an area considered outside management control, is a contributor to the customers' satisfaction with services at their course.

Table 4: Problems experienced, reported and resolved

	Number	% *
Problems experienced	341	41
Problems reported	116	34
Problems resolved	18	16

* percentage of problems experienced expressed as a percentage of total customers.

* percentage of problems reported expressed as a percentage of problems experienced.

* percentage of problems resolved expressed as a percentage of problems reported.

Table 5: Negative aspects of service quality at golf courses

CSQ attributes	CSQ gap*
On-course drink fountains	-2.1
On-course support facilities	-1.5
Safety and security of parking facilities	-1.3
Maintenance of the course	-1.8
Quality of the course	-1.5
Teeing-off times	-1.3

* The scale allowed for results from -5.0 to +5.0; gaps >-1.0 generally indicate attributes of concern to customers.

Table 6: Means for golf course customers: Expectations, performance and CSQ gap

CSQ attributes (abbreviated form)	Expectation (E)	Performance (P)	CSQ gap (P-E)
Parking safe and secure	4.9	3.6	-1.3
Parking suitability	4.7	3.8	-0.9
Course support facilities clean	4.9	4.0	-0.9
Information available	4.6	3.7	-0.9
Teeing off well managed	4.8	3.5	-1.3
Practice facilities	4.7	3.4	-1.3
Well organised and run	4.7	3.9	-0.8
Physically comfortable	4.6	3.9	-0.7
Value for money	4.5	3.7	-0.8
Course high quality	4.9	3.4	-1.5
Course well maintained	5.1	3.3	-1.8
Food and drink facilities	4.7	3.7	-1.0
Appropriate signage	4.7	3.7	-1.0
Staff friendly	5.0	4.3	-0.7
Staff responsive	4.9	4.1	-0.8
Staff presentation	4.7	3.9	-0.8
Staff experience/knowledge	4.7	4.0	-0.7
Equipment range	4.5	3.9	-0.6
Behaviour standards/etiquette	4.8	3.1	-1.7
On-course drink fountains	4.8	2.7	-2.1
On-course support facilities	4.8	3.3	-1.5

The mean 'expectation' and 'performance' columns of Table 6 represent customers' responses to each attribute. The scale used for this part of the questionnaire ranges from 1 ('disagree') to 6 ('very strongly agree').

CSQ

The combined means (average ratings) for the 21 CSQ attributes for golf courses involved in the survey are summarised in Table 6.

Indicators

Features of OM indicators

The use of ratio indicators is a key feature to note when considering OM indicators, as they allow more appropriate comparison between individual courses. Indicators are designed for applications with expenditure and revenue ratio figures based primarily on the number of holes on the course. The range of indicators is a feature to note. The range extends beyond many of the current performance indicators used by public sports and leisure centres. They address OM issues including human resource areas such as downtime, staff absenteeism, insurance costs and sponsorships as a proportion of income.

Downtime

As a sufficient number of courses are included in future surveys, benchmarks will be provided for each course type or group. These benchmark medians and inter-quartile indicators will allow managers to compare directly their indicators to the median or inter-quartiles for all courses in their group while maintaining confidentiality. Increased numbers of courses participating in the study will allow for more relevant grouping of courses to occur.

Medians

Relationships between CSQ and OM indicators

Of significance to managers involved in the study is the link between CSQ and financial indicators that are often used in other leisure services. The collection of CSQ and OM data allows a

number of significant relationships to be more objectively examined.²⁰

LIMITATIONS OF THE STUDY

Number of OM indicators

Feedback from many of the course managers involved in the study was that the amount of information required in the OM questionnaire was excessive. Consequently, a future questionnaire will ask managers to rank all golf course OM indicators based on their level of perceived usefulness and importance in OM. This process will then allow for questionnaire modification to collect data for only the more predicative indicators.

Inconsistencies in the data supplied by managers

It is apparent from the survey data that, although commonalities are evident in the CSQ data, inconsistencies exist in the OM data. This is due to insufficient numbers of courses completing OM questionnaires, and potential for first-time confusion over what exactly was required in the questionnaire. The issue of first-time confusion may be easily rectified through continued refinement of the questionnaire and increased familiarity by managers with the processes of surveying and reporting back. The lack of respondents completing the OM questionnaire is more problematic. The lower number of questionnaires returned with OM information indicates a lack of willingness to complete the questionnaire, even by those managers who conducted CSQ reviews. This may reflect that the information requested in the questionnaire was difficult to provide, or managers did not have access to the information requested, or that managers were not willing to provide the information. These responses may be due to a perceived threat from the survey process, with lack of clear information provided about what exactly the process parameters were, or a lack of external encouragement to complete the survey. Each of these barriers to establishing a more complete dataset, from which to develop the most useful management information, is a common early phase of an industry sector's maturity in performance management processes.²¹ If the study is to be developed and incorporated into an Australia-wide benchmarking project, the following strategies may be essential:

- ensuring clarity of questionnaire requirements
- maximising understanding of both questionnaire and process through education, such as follow-up and workshops with managers
- liaison with owners of courses to ensure that questionnaires are completed
- ensuring managers understand the process and protocol of data handling, emphasising confidentiality and ethical requirements
- ensuring managers understand the independent role played by CERM PI[®] as a university research unit.

Potential for longitudinal (trend) data

As previously stated, the outcome of the study was to develop a set of performance indicators that are accepted by the industry as useful, reliable, cost-effective and relevant. This outcome characteristic will maximise the potential for an ongoing benchmarking of indicators for managers of public golf courses to monitor and improve their performance through active, informed decision making. An essential component of this is to ensure that accurate current data are available. This requires participants to be involved in the process over a period of years, rather than on a single study or single survey basis.

Summary of issues for future research

The next stage of this study is to refine and promote the questionnaires and frameworks in order to generate sufficient usable returns to develop group-specific benchmarks. This will require ongoing refinement of OM indicators, promotion of the value of an improved golf course 'scorecard', the facilitation of groupings of similar courses, the development of benchmarks for groups of similar golf courses and promotion of the value of indicators for both OM and CSQ aspects of course management.

Areas for further research also include an assessment of the operational diagnostic value of CSQ and OM indicators; the levels of correlation between CSQ and OM indicators and success criteria of courses; and the detailed assessment of the validity and reliability of the items used in questionnaires.

Correlation, validity and reliability

References

1. Australian Bureau of Statistics (2000) *Participation in Sport and Physical Activities*, ABS Catalogue: Report No. 4177.0, ABS, Canberra.
2. Australian Bureau of Statistics (1997) *Sport and Recreation: A Statistical Overview; Australia*, ABS Catalogue: Report No. 4156.0, ABS, Canberra.
3. Sinclair, D. and Zairi, M. (1995) 'Effective process management through performance measurement: Part 1 — Applications of total quality-based performance measurement', *Business Process Re-engineering and Management Journal*, Vol. 1, No. 1, pp. 75–88.
4. Sharp, C. (1999) 'Strategic evaluation: Performance in the service of corporate governance', *Evaluation Journal of Australasia*, Vol. 11, No. 1, pp. 5–24.
5. Australian Bureau of Statistics (1997) *Sports Industries: Australia 1994–95*, ABS Catalogue: Report No. 8686.0, ABS, Canberra.
6. Dollery, B. and Marshall, N. (Eds) (1997) *Australian Local Government: Reform and Renewal*, Macmillan Education Australia, Melbourne.
7. Neely, A. (1999) 'The performance measurement revolution: Why now and what next', *International Journal of Operations and Production Management*, Vol. 19, No. 2, pp. 205–228.
8. Hinton, M., Francis, G. and Holloway, J. (2000) 'Best practice benchmarking in the UK', *Benchmarking: An International Journal*, Vol. 7, No. 1, pp. 52–61.
9. McNair, C. J. and Leibfried, H. J. (1992) *Benchmarking: A Tool for Continuous Improvement*, Oliver Wight Publications, Essex Junction.
10. Zairi, M. (1994) 'Benchmarking: The best tool for measuring competitiveness', *Benchmarking for Quality Management and Technology*, Vol. 11, No. 1, pp. 11–24.
11. Hiebeler, R., Kelly, T. and Ketterman, C. (1998) *Best Practices: Building Your Business with Customer-focused Solutions*, Simon & Schuster, London.

12. Dawson, P. and Palmer, G. (1995) *Quality Management: The Theory and Practice of Implementing Change*, Longman Australia, Melbourne.
13. Holloway, J., Francis, G. and Hinton, M. (1999) 'A vehicle for change? A case study of performance improvement in the "new" public sector', *International Journal of Public Sector Management*, Vol. 12, No. 4, pp. 351–365.
14. Crilley, G., Howat, G., March, H., Milne, I. and Murray, D. (1999) *CERM Performance Indicators Bulletin*, University of South Australia, Report No. V7-2.
15. Crilley, G., Murray, D., Howat, G. and Milne, I. (1997) 'The cost-quality relationship in Australian public sports and leisure centres: Conventional wisdom revisited', in Rowe, D. and Brown, P. (Eds) *ANZALS Conference Proceedings*, Australian and New Zealand Association for Leisure Studies, Newcastle, Australia, pp. 42–47.
16. Howat, G. and Murray, D. (2002) 'The relationships among service quality, value, satisfaction, and future intentions of customers at an Australian sports and leisure centre', *Sport Management Review*, Vol. 5, No. 1, pp. 25–43.
17. Berry, L. L. (1995) *On Great Service: A Framework for Action*, Free Press, New York.
18. Crilley, G., Murray, D. and Howat, G. (1999) 'Beyond the bottom line: Indicators for efficiency in public sports and leisure centres', in *Blending a Nation, Conference Proceedings, Parks and Leisure — Australia 27–29 September*, Park and Leisure Australia, Adelaide (CD-ROM).
19. Howat, G. and Murray, D. (forthcoming) 'The role of critical incidents to complement service quality information for a sports and leisure centre', *European Sport Management Quarterly*.
20. Crilley et al., ref. 15 above.
21. Sport England (2000) *Best Value through Sport: Performance Measurement for Local Authority Sports Halls and Swimming Pools*, English Sports Council, London.