Made to Measure: developing client-oriented statistics

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Introduction

Libraries in all sectors, but not least public libraries [and their managers] face challenging times for a variety of reasons. In the prevailing climate of change – technological, social and political – the imperatives to grasp new opportunities, to respond to new [and increasing] demands and to innovate generally are more evident than ever. Managers are confronted by the digital revolution offering spectacularly novel means of communicating ideas and knowledge. They are also challenged by a new awareness of its role as consumer by the user population that knows its own mind and demands quality from services. Society, through government, also seeks the enlargement of access to information and culture and these are embodied in programmes to enhance social inclusion and in initiatives to extend opportunity. Examples include lifelong learning (Department for Education and Employment: 1998) and the development of IT networks (Library and Information Commission: 1997) (People's Network: 2001) (Department for Education and Employment 1997). All of these impinge greatly on library services. However, the challenges that face managers offer, at the same time, exciting opportunities for public libraries to contribute significantly to the cultural life of communities. These opportunities are enumerated in a recent consultative draft from government (Resource: 2001).

Resources are, however, scarce and projects and programmes have to be prioritised. It should never to be forgotten that central to the entire activity in the public sector is the fact that, for most of the time, the library manager is spending other people's [local and national taxpayers'] money! This is translated into a requirement for more accountability and a demonstration of value for money by public sector agencies. The idea of providing value for money is not new or particularly revolutionary. As long ago as 1988 Sizer addressed a conference of librarians and enumerated his three 'E's as criteria for assessment (Sizer 1988).

Sizer's three 'E's:

- Economy in acquisition of resources,

- Efficiency in the use of resources, and

- Effectiveness in the achievement of objectives.

The UK Government 'Best Value' agenda is but one recent example of the trend. Librarians have to respond in this climate of accountability by ensuring not only that they deliver quality and value, but are also seen to do so! Philip Gill offered a global view and an interpretation of the political perspectives of the trends towards applying more metrics to managing libraries at an IFLA Satellite Meeting in 1997 (Gill: 1998).

Library managers devote a lot of time to determining the service mission, planning strategies, developing new initiatives and services, directing and monitoring operations, promoting services and interacting within the cultural, social and political environment around them. To function successfully they need a great deal of information – information about what has happened; what is happening; what will [or indeed may] happen and where they [and the service] are going and how to get there. In addition they need to know what their users [clients] think about services – existing and planned. They also need the facts to underpin and demonstrate efficient and effective operation. In short they require a great deal of performance data. This is where LISU, as an independent national organization acting as a resource for statistics and performance related information, plays its part.

LISU – The Library and Information Statistics Unit

LISU – The Library and Information Statistics Unit – is a national research and information centre based at the Department of Information Science at Loughborough University, partially supported by Resource; The Council for Archives, Museums and Libraries – a UK Government agency. LISU comprises a team of experienced Managers, Statisticians, Researchers and Administrators focusing on the analysis, development, interpretation and dissemination of statistics, performance assessment measures and related management data as well as advising on their application and exploitation. It has an established reputation as an independent authority in its field fulfilling a key role in supporting managers of information and library services amongst others.

LISU seeks to contribute, in appropriate ways, to good management practice in the various public and private sector agencies that make up the strands of the information economy and cultural services. Its 'main-

stream' work covers public, academic and special libraries and the information publishing and distribution field. It has also collaborated with IT services directors and media managers in universities as well as others in culture and the arts on strategic and performance management issues and quantitative assessment approaches. It is currently assessing and refining retrospective statistical data for museum services and archives.

UK public libraries

Public libraries in the UK are operated at the local government level by 203 London boroughs, metropolitan districts, unitary authorities and counties in Great Britain and five Education and Library Boards in Northern Ireland. There is a statutory obligation on these authorities to provide a comprehensive and efficient public library service to all who live or work within their boundaries, under the Public Libraries and Museums Act (1964). These authorities vary in size from a few thousand residents to over one million, operating between three and 113 service points each. They are governed by elected representatives of all political persuasions. Statistics on the operation of public libraries have been collected and published since 1964, and are most usually presented by authority type.

In recent years the reporting framework has become formalised, with much new legislation. Under the 1964 Act, libraries were required to provide a "comprehensive and efficient" service, but this was not defined, and the concept was rarely tested. All public library authorities are now required to demonstrate the efficiency of their service by means of a published Annual Library Plan, which must be submitted for approval to the relevant government department. The plans are formally assessed and used to monitor the performance of individual authorities. Libraries are also required – along with other branches of local government – to demonstrate that they are achieving 'best value' for taxpayers' money. Driven by the Audit Commission, many of the indicators for this process are the same as those required for public library plans, although the process goes rather deeper than just collection of statistics. The almost inevitable consequence of these initiatives was the development of a set of formal performance standards (DCMS 2001), linked to the various indicators already in common use. For the first time, there are external benchmarks, which all authorities are expected to achieve within three years. At the end of the three-year period, the levels of the standards are expected to be revised upwards, aimed at driving up performance.

None of this would be possible without good quality statistics to provide the hard evidence. There is a long history of data collection in UK public libraries, most prominently the CIPFA *Public Library Actuals*

(CIPFA 2001a). This is a long-running and comprehensive set of figures on all quantifiable aspects of library operations, and under continual development and review. It is matched by a smaller series of *Estimates* (CIPFA 2001b), published at the start of each year, and concerned with forecasting levels of provision.

There is increasing interest in the more qualitative aspects of the service, and a standard Public Library User Survey[1] has recently been developed. There have always been surveys of users, but the aim here is to have something, which can be compared between authorities. CIPFA PLUS has been taken up by DCMS and some of the proposed public library standards relate to satisfaction measures from this survey. It is used by the majority of authorities, and enables comparisons to be drawn in this important area.

To supplement this already extensive data collection, LISU carries out some of its own surveys, most notably to get early indications of expenditure on materials (Maynard 2000), and a comprehensive survey of library services to schools and children (Creaser 2000).

LISU also maintains a comprehensive database of public library statistics based on the CIPFA data (CIPFA 2001a). This includes data for every authority from 1985-86 onwards, and is held in an Oracle database at Loughborough University. Gaps in the data, where there has been non-response to either an individual question or a whole authority missing for a given year, have been filled by means of supplementary questionnaires, interpolation and extrapolation. Figures which do not conform to the standard definitions are adjusted to enable comparisons to be made with confidence, and the process is kept continually under review. This database is used for presenting trends in the overall performance of the public library sector (Creaser *et al* 2000), and for a strategic statistical benchmarking service.

Statistical Benchmarking

Statistical benchmarking is the process of comparing institutions on paper, looking at a range of performance measures and indicators over time to help in identifying patterns of performance and indications of where best practice is to be found. It will only give an overview of performance, and so is complementary to more detailed process benchmarking. Often it is a way to identify suitable comparators for more in-depth studies. It can be particularly helpful to look at trends over time, identifying the historical patterns underlying present performance. In the UK, the public library sector has a very comprehensive set of published data – so the analysis can proceed without involving anyone else in the early stages at least. That being said, it is limited to the available data, unless collaboration, either informally or through benchmarking clubs, is introduced to collect other figures.

Statistical benchmarking can also be a first stage in a wide-ranging review of practice within the library. It is most widely used to compare whole authorities, but has wider application for internal analysis, discussed below. The following example is taken from work done at LISU based on the public library statistics database described above.

This analysis was carried out for an English county library authority, and the comparisons were made with a group of six other counties of a similar size, and with the average of all English counties. Fig 1 shows that whereas the average number of annual issues for each book in stock was generally stable for all counties, it was less consistent in the comparison group, and declining sharply for the commissioning county.

Looking at some of the associated measures available gave an indication of the areas which should be addressed to try to improve the attractiveness of the stock. Fig 2 shows that it was not the general level of issues that was the cause – issues were falling in all areas at about the same rate for reasons which are likely to be beyond the control of any individual library service. Fig 3 shows that, in contrast to the comparison averages, stock was increasing in the commissioning county – perhaps their stock weeding policy was not sufficiently rigorous. Fig 4 shows a drastic cut in book expenditure – combined with the increasing stock the suspicion is that the cuts in expenditure have led to a reluctance to discard old and out-of-date items. This is clearly less attractive to borrowers, and the rate of issues per item falls as a consequence. This library was advised to consider its deletion policies to make more efficient use of the space and remove unused stock items. The following year, stock levels were dramatically reduced, the cuts to the book fund were halted, and stock turnover began to recover its previous levels.
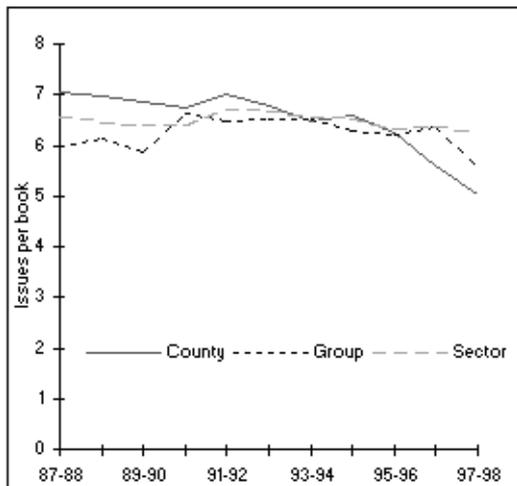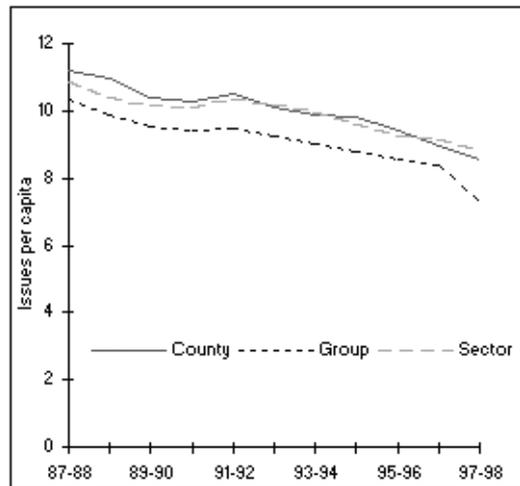
Fig 1 Issues per book

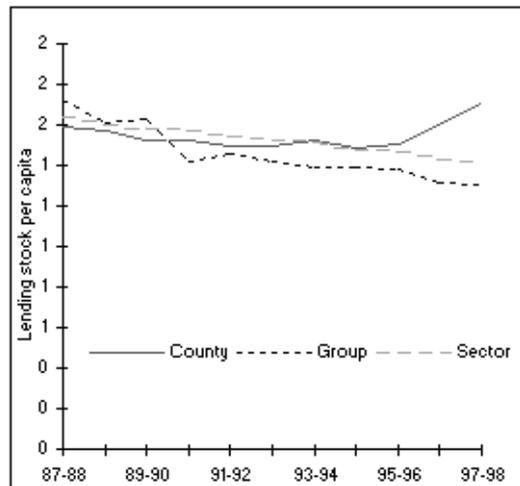Fig 2 Issues per capita

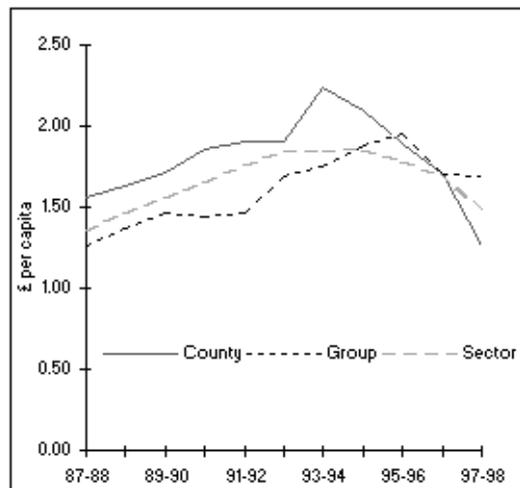Fig 3 Lending stock per capita

Fig 4 Book expenditure per capita

Management statistics

The previous example dealt with statistical benchmarking on a macro level – between authorities. In order to manage effectively, librarians also need statistics at the micro level, for the individual service points and activities within their remit. Many of these are readily available; in some instances the only way to get the broader figures is to collate data from individual service points. It is also the case that many library managers do not use these figures to their full potential – they can also be used for statistical benchmarking, to identify potential pockets of good practice within the authority, and focus on those areas, which should be closely monitored.

Service points in the UK vary in size within each authority, from the very small serving local communities and perhaps only open for one or two days per week, to large urban branches and central libraries serving a wide area. Often the level of service provided, for example the availability of audio-visual material for loan, will vary in service points of different sizes. It is important to compare like with like; for this reason comparisons are best carried out within groups of service points which have the same aims and objectives, and which provide similar levels of service. If possible the effects of differing catchment populations should also be eliminated from consideration. This can be difficult in authorities with high population density, where residents have a choice of service points within easy reach. Use of input measures, such as stock levels, or output measures such as visits, is not appropriate in this context. LISU has developed a methodology, described in detail elsewhere (Creaser 2001), which enables authorities to identify service points which are performing relatively well, or poorly, within the authority, and indicating the areas which deserve attention.

This methodology is based on the calculation of a 'benchmarking score' derived from the difference between levels of input and levels of output at each library. High performing libraries are those where the average level of output is significantly higher then the average level of input. A key advantage is that the resulting scores are independent of service point size, without requiring estimation of catchment populations. Any combination of measures can be used, and the method can be applied either within pre-defined tiers or levels or over the authority as a whole. The example which follows is based on a selection of libraries from a large English county authority.

The range of inputs and outputs to be assessed were chosen by the authority concerned, having in mind the available data, and in consultation with LISU. Measures were excluded from analysis only where they caused the benchmarking scores to be correlated with the original data and hence with library size. A variety of analyses were carried out, both within the pre-assigned tiers operated by the authority, and across the

authority as a whole. There was a great deal of consistency between the various sets of results. The variables included in the analysis described below were:

INPUTS

• FTE staff, professional and support staff separately

• Stock held, books and audio-visual items separately

• Additions to stock, books and audio-visual items separately

• Floor area. This was included as a proxy for premises costs, which were not available directly, but thought to be relevant to overall performance.

OUTPUTS

• Issues, books and audio-visual items separately

• Requests

• Enquiries

• Visits

Fig 5 shows the results for the 18 largest libraries in the authority. For each service point, the values of all measures were listed, standardised, then the average input and average output calculated. The difference between the two was calculated, then re-standardised. These scores were ranked, and plotted. It is clear that the majority of service points have very similar scores, between +1 and –1.5. Their levels of performance can be described as average, and their rank order is likely to change from year to year. Two service points stand out, however. The first, ranked 1, has a standardised score of 2.3 – more than twice its nearest neighbour. On the input side, it has relatively low book acquisitions compared to its other inputs, but achieves its high position by virtue of recording a large number of enquiries. The reasons for this are a matter for investigation by the authority concerned – high levels of enquiries may be a genuine reflection of an excellent enquiry service, but may indicate a library which is difficult for users to negotiate without help from staff, or be artificially inflated by over-zealous recording.

The poorest performing library again stands out with a score of -2.0. In this case, however, the cause was relatively easy to identify from the figures – the county reserve stocks are held at this particular branch, and although these were excluded from the analyses, its unusually large size was not, and this undoubtedly played a part in its apparently poor result.

While the exact rank order of service points produced by this analysis can vary according to which measures are included, or which year's data are used, the most extreme libraries appear as such consistently. The reasons for individual scores will be varied, although it is clear that instances of good practice can be identified, which could be spread to other service

points. When interpreting the results, and seeking out more details, local factors should always be taken into account, however.

Fig 5 Service point benchmarking
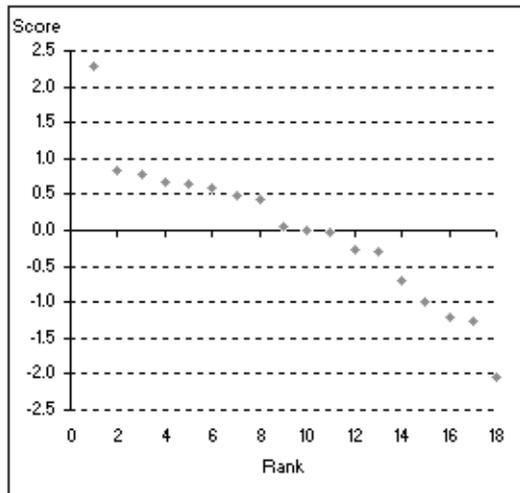
Practical applications

LISU's role in identifying appropriate performance measures and indicators, developing suitable methodologies to collect them and then disseminating the outcomes are an important contribution to UK library management. However, it represents but a portion of the endeavour to ensure that managers have the best possible management information *and* are able to act on it. There is often follow up to a data gathering or benchmarking exercise in the form of additional management consultation to explore local issues and strategies. In this way a partnership between LISU and local management can be forged to mutual advantage in exploring ways to achieve optimal performance.

This type of supplementary activity has also included development of targeted workshops to introduce a wider range of professionals to the scope and potential of evidence-supported management, and to hone their skills in utilizing the data. An example of such an exercise featured a workshop for middle and senior managers held in a large city library authority. Fig 6 shows an edited outline of the day's programme. The aims were to de-mystify statistics and performance indicators and introduce techniques for interpreting the extensive local data that were available but not fully utilised. Confirmation that the event was successful came in the way in which some participants, formerly wary of numbers, were able to identify key features in data and offer explanations and strategies for developing strength in services.

Fig 6 Workshop Outline

Measuring and Managing; Managing and Measuring: Applying Statistics and Performance Indicators to Managing Change – XXX City Libraries Training Workshop 21st November 2000

WORKSHOP Aims/Objectives
To:

develop an appreciation of the importance of P.I.s and Statistics in managing effectively;

raise awareness of the data that are available both locally and nationally;

demonstrate how data can be applied in practice.

Programme
Coffee
Welcome and Introduction
Measuring matters: the role and value of statistics and P.I.s for management
Workshop Exercise 1 – Service mission and assessing its achievement. Where we are now? The local context and data.
Lunch
Comparing and contrasting: Benchmarking at the city library – introduction – analysis –
Workshop Exercise 2 – What's happening? Diagnostic use of benchmarking data
Tea
Workshop Exercise 3 – What if? Scenario analysis
Closing remarks
Disperse

Other components of LISU's work include facilitating the pooling of management experience in regular seminars for senior managers as well as the provision of an enquiry and referral service to provide information on request and to offer advice on interpreting data in the local context. Where appropriate, LISU also collaborates with other researchers and members of the profession on special projects. The work is decidedly not complete until every effort has been made to support managers in achieving optimal performance.

Some conclusions

The application of more refined strategic management approaches together with techniques such as benchmarking and the intelligent use of performance indicators contribute to improving the quality of services and to demonstrating that improvement. Sandra Parker, in a recent Editorial, summed it up well:

As the development of strategic approaches to managing libraries and information services gathers pace, increasingly sophisticated performance measures, indicators and benchmarks underpin the work. (Parker 2000)

This approach is not confined to the library sector as this recent observation on measuring performance in non-profit-making organizations [including charities and voluntary agencies] illustrates:

Every organization, no matter what its mission or scope, needs three kinds of performance metrics – to measure its success in mobilizing its resources, its staff's effectiveness on the job and its progress in fulfilling its mission. (Sawhill and Williamson 2001)

Much can be achieved within an organization through self-assessment techniques and work on this has been documented (Kinnell Evans 2001). In addition, there is a growing trend towards formal and semi formal peer cooperation in comparing data and benchmarking through benchmarking 'clubs' or 'consortia'. An example with a formal structure is SELPIG – The South East Libraries Performance Improvement Group (Olsen 1998). LISU has undertaken research commissioned by SELPIG on assessing the relationship between social conditions in a community and library use (Creaser and Sumsion 1995) and on modeling use at service points (Creaser 1998).

There are also examples of cooperative activity where benchmarking has been taken further to examine, not only performance data, but the processes underpinning services with a view to identifying 'best practice'. An ongoing example of the consortium approach from the academic library sector has been documented (Hart 2001). LISU has contributed advice and comment and sent an observer to a meeting of the consortium. All these initiatives illustrate an encouraging capacity for library managers to learn from one another and to adopt and adapt where appropriate.

This paper has explored issues surrounding the development of performance indicators in public libraries and LISU's role in the process. The quest for quality and value will go on – and the pressures on managers will not abate. It should be some reassurance to them that the performance data sources, the tools and the attendant skills to achieve and demonstrate good management are being continuously refined, not least through LISU's sustained endeavour.

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Note

1. See http://www.ipf.co.uk/plus/ for further information.