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Benchmarking: Overview and context

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"Management is about change, and maintaining a high rate of change"
Sir John Harvey Jones, Making it Happen

Abstract:

The paper examines some of the issues related to benchmarking, and its successful implementation, in academic, public and special libraries, for quality management. The need for benchmarking and peer review processes to cover the measurement and analysis of outcomes, as well as the more traditional inputs, processes and outputs, is discussed, along with importance of social context. The relevance of benchmarking to national libraries, and some ways in which benchmarking and peer review activities can be applied to improve quality performance are outlined. The paper discusses ways to take into account the special nature of national libraries, and their difficulty in finding partners with whom to benchmark. Elements of 'best practice' in benchmarking in this sector are defined.

Introduction

We live in a time of great change, and it is sometimes difficult to reconcile the need to cope with change with the achievement of some of our longer term and unchanging goals and values—to deliver the highest level of service that we can to the widest number of clients and stakeholders. In order to do this we need to identify what changes are occurring externally, what changes need to occur internally, and to manage the change process in order to reconcile the internal with the external. External changes to which we must respond include the changing world of information and communications technology (ICT) which is affecting every aspect of our business, the changing expectations of customers and clients, and the changing demands being made in terms of accountability, service delivery, and national and global cooperation.

In many other library sectors, and in some parts of the national library sector, benchmarking has been perceived as a way of meeting external accountabilities, and fostering internal change. In this paper I examine some of the issues related to benchmarking, and its successful implementation, make reference to some examples of benchmarking, and then turn to the situation of national libraries, exploring the relevance and value of benchmarking to this sector. Finally, since benchmarking is often used to identify so-called ‘best practice’, I comment on what ‘best practice’ in benchmarking in this sector might consist of.

Current issues in benchmarking

Although Foot (1998), writing for an audience of local authorities and libraries, defines a ‘benchmark’ as “a fixed point against which you can measure yourself, such as a local target or standard”, this definition is somewhat restricted. It is true that many library applications of benchmarking have in the past taken a statistical norm, whether from a group of comparable libraries or from a national dataset, with reference to a series of input measures (financial resources and staffing) process (efficiency) measures, or output measures, (such as loans and transactions), and used this for comparative purposes (Pritchard 1995). This is still an integral part of the approach taken in the UK by LISU (the Library and Information Statistics Unit at Loughborough University), [1] IPF (the Institute of Public Finance),[2] and SCONUL (the Society of College, National and University Librarians) [3] But in industry, and the private sector, where benchmarking originated, and where it still has strong adherents, benchmarking is much more business process oriented, and less focused on production-line or service activities (Camp, 1998). The Benchmarking Network’s web site lists numerous and wide-ranging examples of benchmarking; the top ten processes benchmarked among member companies include ‘employee development training’, ‘information systems technology’, ‘human resources’ and ‘performance measurement development’ as the top four..[4] Although you can find examples of these activities benchmarked in the library world, they are far less common than the benchmarking of statistics on inputs and outputs, and commonly used (but otherwise unexamined) performance measures. This is in contrast to the private sector’s interest in benchmarking how performance measures are developed and applied.

Foot’s second definition, of benchmarking, is more helpful: “a process of measuring your service’s processes and performance and systematically comparing them to the performance of others in order to seek best practice.” This second definition puts the emphasis on some more useful concepts, systematic comparison, processes, and performance, and the search for best practice. This definition is much closer to how benchmarking is used in the private sector, and yet still quite new to libraries.

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[1] http://www.lboro.ac.uk/departments/dils/lisu/lisuhp.html
[2] http://www.ipf.co.uk/benchmarking
[3] http://www.sconul.ac.uk
[4] http://www.benchnet.com

Thus we need to look at benchmarking, as used in libraries, as focusing on:

i) data collection and comparison - primarily inputs, and outputs. This would include national, university and public library statistics, comparing budgets, numbers and value of acquisitions, numbers of professional staff, reference transactions, and more recently electronic services;

ii) process benchmarking which is concerned with analysing functions, and processes, in collaboration with one or more similar institutions, usually with the intention that all participants will benefit from the exercise, and learn from each other.

The importance of the first kind of benchmarking is now perceived to be primarily as a diagnostic tool, although process benchmarking can also be used for diagnosis. However, only the process-based approach has any value in identifying best practice. While process benchmarking is generally carried out through a process of peer review, with one or more institutions, or departments, it can also be carried out by independent consultants who bring knowledge of other institutional practices with which to compare, or from which to derive models of best practice.

The practice of collecting and comparing data from a number of different libraries raises many issues relating to data definition, that have been well documented and are well known to members of the Statistics Section of IFLA. Attention to such concerns has been one of the strengths of LISU, and has been a major concern of the Institute of Public Finance, which drives local body and public library benchmarking in the UK. As data collection moves from the collection of input data to processes and outputs, these problems become even more complex. Differences in how expenditure and overheads are calculated, and how services and other outputs are measured become amplified once ratios across such data are compared. In addition, it is very tempting to look for cause and effect amongst such data. However, the diagnostic value of comparing raw statistics on inputs, outputs, and processes, and the ratios between them, is limited to indicating where there are concerns that need to be addressed by further investigation; the data do not in themselves reveal anything about causation. It is not appropriate to draw inferences about the links between inputs, processes and outputs without examining the validity of the measures being used, and any underlying assumptions on which they are based.

This was highlighted by Pratt and Altman (1997) who showed with a simple analysis of the statistics of the 24 largest library systems in the US, in the US Public Library Data report for 1996, that not only was there no correlation at all between inputs and outputs, or between expenditure and performance as judged by the five output measures used (per capita figures for borrower registrations, circulation, reference transactions, turnover, and holdings) but that data on many of the inputs were calculated on different bases, and so were the data on the outputs with which they were compared. Furthermore, even if these differences in the definition and collection of data were eliminated, the figures still would not show whether apparent differences in performance lay in more, or less, efficient use of resources, or whether they arose from structural, cultural and strategic differences within the various organisations, their environment, or context. Process benchmarking is necessary to provide a deeper analysis of the problem, if indeed it is perceived to be a problem.

Although the dangers of making such comparisons has been known for some time a very similar set of output measures have been adopted in the United Kingdom as the basis for judging ‘best practice’ in the Best Value Performance Indicators (BVPIs) applied to public libraries. “From April 2000 the duty of best value [requires] local authorities to deliver services to clear standards, covering both cost and quality, by the most economic, efficient, and effective means available" (Favret 2000). For libraries, in addition to an extensive number of performance indicators in the Annual Library Plan, library BVPIs will measure:

- cost per visit to public libraries;
- number of visits per head of population;
- percentage of library users who found the item they wanted
- number of items issued per head of population.

Favret continues "the government will set top quartile targets for some indicators, so broadly speaking costs will have to be in the lowest quartile while service delivery outcomes will have to be in the top quartile."

As well as the need to be very confident of the integrity, validity and comparability of the data being used for these indicators, there are two inherent problems with this set of indicators. The first is that, despite the addition of the apparently transparent indicator "percentage of library users who found the item they wanted", which would seem to reflect the core output that libraries should strive towards, this is, in fact, extremely difficult to measure with any degree of accuracy. The second problem lies in the fact that the process itself assigns the majority of libraries to an unacceptable position in the lower three quartiles (what has been called a culture of 'name and shame'—hardly conducive to best performance). A third, and probably more important problem lies in the fact that contextual data, the internal and external environment is entirely missing from these indicators. These indicators can therefore only be used as diagnostic signals, and cannot be taken to necessarily relate in any meaningful way to performance, best practice, or best value. These issues are not new to librarians in the UK who have been debating for some time the relevance and acceptability of the main BVPI indicators themselves, and the wider range of indicators included in the Library Annual Plan.

Recent initiatives in Europe to include electronic library services highlight the same problems. The EQUINOX project was set up to develop measures for electronic library services, and presumably facilitate the benchmarking of resulting data, since enormous efforts have gone into reaching agreement on the measures themselves, and into defining data and data collection methods.[5] Performance indicators developed cover familiar territory: percentage of the [target] population reached, number of uses of the system, its individual resources, and documents viewed [per target population], as well as cost per session, and training sessions attended by users. Geoffrey Ford usefully compares EQUINOX and several other proposed systems of measurement of electronic libraries, such as the e-Lib project, Brophy and Wynne's MIEL project, Bertot and McClure's work for the ARL, and the UK Value for Money Initiative, and notes with reference to the 'Value for Money' project:

> an interesting part of the resulting document was a series of benchmarks derived from a cross-section of 20 institutions . . . [These] financial benchmarks are not useful for evaluation; it is entirely a matter of opinion whether these numbers should be high or low . . .[they are] merely ratios of numbers that happen to be available (Ford 2001, 9).

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[5] http://equinox.dcu.ie/index.html

Examples of benchmarking, and what we can learn from them

The range of literature on the use of benchmarking in the library and information sector reflects the many ways in which it has been used. Most notably, apart from the health sector (Marshall and Buchanan 1995, Robbins and Daniels 2001, Todd-Smith and Markwell 2002), and the special library sector (Henczel 2002, Polling 2002), benchmarking has been promoted by the academic library sector in the United Kingdom, primarily by SCONUL (the Society of College, National and University Librarians) which is piloting benchmarking amongst a small group of university libraries and also in Australia, where interest is shown by the parallel organisation CAUL (Committee of University Librarians). Even so, a study of the use of benchmarking in UK higher education and special libraries (Brockman 1997) found that, at that time, only 7.4 per cent of respondents formally applied benchmarking as an evaluation tool, although nearly 25% compared their institution with others, using performance indicators or standardised statistics (such as expenditure, acquisitions, and/ or transactions per full-time equivalent student). The study then went on to trial benchmarking in three institutions. The trial established a functional definition of benchmarking "The aim of benchmarking is to document and measure a key process, and then compare the resulting data with those relating to similar processes in other organisations" (Brockman 1997, 345). Brockman and colleagues identified 5 types of benchmarking

- competitor (comparing with leading organizations in the same sector);
- generic (comparing similar business processes, regardless of industry);
- internal (comparing internal operations within the organisation);
- functional (comparing similar functions within the same industry);
- customer (comparing extent to which meet or exceed customer expectations).

Twelve steps, derived from a US project involving a special (scientific) library were identified (Allen 1993), that correlate to standard approaches used by quality management experts (Bullivant 1994, 7). The steps focus on the identification, definition and understanding of a key process to be benchmarked, identification of a suitable partner, identification, definition, and collection of data in both institutions, analysis of data, recommendations for change, implementation, and monitoring, all of which takes place in consultation with staff at test sites in both institutions. Early in the process, much earlier than is suggested by Bullivant, and presumably earlier than is usual in the private sector where management may be involved much earlier, and indeed drive the benchmarking process, is the key step of obtaining commitment of management, and a strong focus on consultation with staff (Brockman 1997, 39-5). A generic benchmarking approach was used, since this "can be paced to suit organizational needs" and reduces the amount of resources (especially time and effort) that need to put into the activity at any one time. The focus on management commitment and consultation at the grass roots level recognises that benchmarking is about change, and implementation of new processes, and that managing benchmarking as a change management process is likely to lead to more effective and lasting change, and improved performance.

Organizations participating in the trial were considered already to be exemplars of 'best practice', and the ultimate consensus of the exercise was that "little needed to be changed". This 'no need for change' conclusion was also a finding of Robbins and Daniels (2001) study benchmarking patron perceptions of reference services in health sciences libraries. Robbins and Daniel used a variant of SERVQUAL (SERVPERF) as the basic survey and analysis tool for their study – a customer benchmarking exercise. The question that both these conclusions raise include: were the studies flawed by lack of management commitment to the benchmarking (and change management process); is the SERVQUAL /SERVPERF model not well adapted to benchmarking, or, as in the Brockman study, is the process of benchmarking not well understood or carried out?

Communication, training, and lack of management understanding of the benchmarking process are key issues identified by Brockman and his team for the relative lack of success of the trial. They comment that for benchmarking to work, an organisation needs to be already focused on quality management. “It is a quality tool, and is therefore of most use where the culture and practices are already focused on best practice” (Brockman 1997, 372). To solve the problem of selecting a partner, and avoid situations where the benchmarking partner maybe behind the initiating partner in best practice, they suggest, instead, that a database of potential partners for benchmarking be established “indicating which organizations had benchmarked certain processes, along with outcomes of the exercise. This would both facilitate identification of partners and establish ‘the best of the best’. (Brockman 1997, 357). Foot’s definition of benchmarking, of equal partners who seek to learn from each other, seems to have got lost in the desire to assert some superiority, and in the need to categorise and pigeon-hole institutions in terms of past performance rather than seeking to raise performance in the future.

A database of benchmarking libraries already exists, of course, in the UK public libraries belonging to the IPF Benchmarking Club (to which well over 100 libraries now belong)—although the benchmarking appears to be primarily focused on the existing BVPIs and other performance indicators in the Library Annual Plan structure. Despite attention paid to consultation with libraries to define and standardise the data being collected, the CIPFA/Best Value approach may act against the real benefits of process benchmarking, or the benefits of peer review, as reported in industry (Camp 1998) where the focus, as we have seen, is on improving business processes, not input/output measures.

A highly successful generic benchmarking study of Interlibrary Loans and Document Supply was carried out by the National Resource Sharing Working Group (2001), and the National Library of Australia, based on the equally successful ARL Measuring Performance of Interlibrary Loan Operations. The Australian study used statistical data on unit costs, fill rate (the number of items able to be supplied), and turnaround time for both requesting and supplying documents in 97 libraries across Australia. Dramatic variations in cost and performance were shown between upper and lower percentiles, and between different library sectors. Even here, as in the US public library statistics, there were no libraries that were in the top 10 per cent for all the main indicators used. Despite the apparent superiority of some institutions, it appears there is room for improvements in all organisations, and something to be learned from other, maybe even less successful institutions. The survey was wide ranging enough, and yet sufficiently rigorous, to enable an investigation of processes underlying these figures, and a comparison between institutions. Well-argued and well-received conclusions address a number of issues that were perceived to be critical to best practice, such as automation, cataloguing practice, training, and cooperative agreements between libraries. The study employed a well-tested instrument, questions of sufficient depth to probe different operational and management practices, and was constructed with some sensitivity to different library environments and cultures—factors which have been reported, at least anecdotally, to have led to disappointing results in other benchmarking studies in the region. There is perhaps a lesson here that the identification of best practice through the interrogation of statistical datasets requires a large enough sample, and robust construct validity, to enable the data to be rigorously examined for causality. Best practice is unlikely to be identified by comparing inputs and outputs between only two or three institutions. Organisations which want to 'benchmark' with only a small number of other institutions should focus on the softer end of the spectrum, and adopt a peer review process which will help them learn more about their own values and processes. Peer review is the approach followed by the most successful companies in the for-profit sector, who report widespread satisfaction with the process (Camp 1998).

Benchmarking outcomes

The Association of Research Libraries (ARL) which contributed to the design of the highly successful Australian benchmarking project has shifted its focus on quality and evaluation of libraries to the LIBQUAL^{+}™ project. Based on the SERVQUAL methodology, used for the past two decades in management and marketing studies to investigate service quality (Zeithaml, Parasuraman and Berry 1990) the LIBQUAL^{+}™ methodology derives from a research and development project undertaken in 2000 by ARL in collaboration with Texas A&M University 'to measure library users' minimum, perceived and desired level of service quality in four key dimensions: Access to Information, Affect of Service, Library as Place, and Personal Control'.[6] The project has grown from an original participating 12 institutions in 2000 to 164 in 2002. Although initially developed as a tool for measuring individual library service quality, and diagnosing areas where there were problems needing attention, the growing database of scores has increasingly been used as a national database against which individual institutions can measure their performance, in a form of customer benchmarking.

Unlike the Australian ILL benchmarking study, LIBQUAL^{+}™ has been criticised (Hernon and Nitecki 2001, Cullen 2001) on the grounds that it takes little account of individual, contextual and cultural differences between libraries in vastly different environments, and with different constituencies, across the United States. Admittedly, variants of the SERVQUAL method have already been used in a number of different library environments (Calvert 2001, Hernon and Calvert 1996) with some success. Calvert 's (2001) study shows that the dimensions of service quality that concern users, in this case staff attitudes, the library environment, and services that help the customer find and use the library's materials efficiently, are common to Chinese and New Zealand students. However, moves to trial the LIBQUAL^{+}™ methodology in the United Kingdom are currently underway, sponsored by SCONUL in the belief that the well-tested LIBQUAL^{+}™ survey instrument, and methods of data analysis will be as applicable to institutions in the United Kingdom as it has been in North America. This is probably true, but whether data can be added into a single data base, or whether data from the UK study will show different patterns of response, based on cultural differences, and issues such as vastly different grading ranges used in the US and the UK universities, which must in turn influence how library users (students, and staff) 'grade' survey forms, will remain to be seen. If sensitivity to context is important in benchmarking, these new UK LIBQUAL^{+}™ studies will hopefully confirm this. That is, we might expect to see that while the dimensions of service quality constitute a robust construct that is relatively consistent across different countries and cultures, to use the datasets on which such dimensions are derived for benchmarking purposes may not be appropriate use of this data.

[6] See ARL web site at http://www.arl.org/pr/libqual

One of the most interesting aspects of the LIBQUAL+™ methodology is that it is seeking to benchmark not inputs, processes or outputs, but some additional impact of library services- satisfaction, and service quality. Although the UK Best Value protocol requires reporting of results of satisfaction surveys in Library Annual Plans, too little is known about the underlying issues leading to user satisfaction (Hernon and Altman, 1998)) to be confident of benchmarking user satisfaction across different geographical, demographic and cultural environments. This is because there are a number of key concepts which are crucial to the benchmarking process. One of these, as we have seen, is context. Another is the issue of 'construct validity', which addresses the question of whether our measuring instrument is actually measuring the factors that we believe it is, and what other variables might be impacting on the measurement that we have not taken into account. Much more rigorous testing of instruments is needed before we can be sure of this, and the claims made by the developers of the LIBQUAL+™ instrument for its well-tested construct validity remain controversial. (Hernon and Nitecki 2001). To investigate the question of construct validity, both empirical and ethnographic methods are necessary to disentangle potentially erroneous assumptions, and illuminate contextual and cultural differences that affect both the expectations of library customers, and library performance. All benchmarking instruments, and data collection procedures must be subjected to the same rigorous scrutiny before we can place much management reliance on them.

The question of construct validity affects a number of areas where we might want to see benchmarking developed. In this context, we need to consider several points. First, as noted earlier, we have a tendency to place reliance on ratios between measures simply because they are there, without establishing if these figures have any validity, or if that relationship is indeed, a genuine one. The data, the ratios between it and any figures used for comparative purposes must emerge from a clear understanding of the underlying construct, and not from the convenience of using available figures, as Ford labels it.

Secondly, if we are to be able to identify necessary change through the benchmarking process, we must employ a judicious combination of data benchmarking (primarily for diagnostic purposes), and process benchmarking so that intelligent judgements can be made concerning the meaning of the data, in its context, and of the processes that give rise to that data.

Thirdly, it is my firm belief that if benchmarking is to be meaningful to managers, it cannot be separated from the other forms of evaluation and performance measurement being used in the institution. The current emphasis in performance measurement is not on the inputs, processes and outputs that have preoccupied us in the past, but on outcomes. Outcomes are as yet ill-defined in all library sectors, or at least if they can be defined, no satisfactory instruments for measuring them have yet been developed. However, if benchmarking is to be a truly relevant tool, we will need to include outcomes in benchmarking activities—probably at the softer end of the spectrum in peer review analysis.

A benchmarking model for national libraries

And so, turning to national libraries, and their use of benchmarking for evaluation, there are a number of issues to be considered. Firstly, national libraries are a very special sector, with defined national roles which differ from country to country, and which are subject to political agendas which change, often more rapidly than for public or academic libraries. The importance of the national and political context has made it difficult for them to find peers with which to benchmark. It is also difficult for them to participate in databases of sufficient size to do any traditional data benchmarking, or identify best practice, although best practice as identified in generic activities across all library sectors will of course still be relevant, and there are good opportunities for generic benchmarking, matching the various services they offer with those of similar sized institutions, or those of a similar type, as shown in the Australian example above. They can also consider internal benchmarking where issues such as human resource, or personnel management, and accounting procedures are being compared, and benchmarking with other government agencies, looking at these kinds of business processes, and customer benchmarking. And recalling that benchmarking in the private sector ranges over activities such as employee training, human resources, information technology, document control and records management, and internal and external communications, and across industry types, the search for partners for peer review can be extended beyond the library and government sectors to any organisation which may good practice to share. Many leading companies might be glad of an opportunity to engage in benchmarking and peer review on business process with an institution as large and prestigious as a national library.

Where national libraries have much more difficulty is in the area of developing performance measures, and to reconcile these with goals set within a government driven social agenda, such as contributing to the education and welfare of the population in some defined way, preserving heritage and culture, or supporting the knowledge. Who are their customers, what is their target population, what should their outputs be, and what is a desirable level for their outputs? Even more difficult, what should their outcomes be? Difficult as it is to attempt to measure the outcomes of academic libraries, through student learning outcomes, or through research contributions of staff, or to measure public library outcomes by enhanced lifelong learning, business or employment opportunities, or enrichment through recreational reading, the outcomes of national libraries are even more difficult to define and measure. And yet, if benchmarking is to keep pace with performance measurement, that is where we are headed.

If they are willing to learn from other sectors, national libraries could begin a process of peer review to share ideas on the development of performance measures in this difficult area of outcomes, with other government agencies, and NGOs dealing with a similar range of social and educational outcomes. One way of doing so is to examine the different roles that a national library plays for its different constituencies, and seek peers dealing with a similar role. And. as we observed earlier, the issue of construct validity is a critical one here, and it is not one that governments have necessarily paid much heed to. Examining the tasks that customers seek to accomplish when they visit a national library either in person or virtually, and their success in achieving their goals, and the difference this success makes to their lives and work, will need first to be defined by ethnographic methods, and confirmed by empirical studies, that can provide an underlying construct from which a base for outcome evaluation can slowly be built. Partnerships and dialogue with peers in the library sector, in government and non-government agencies, and in the private sector can all help in this process. .

Thus, a benchmarking process for a national library may be less of an exercise of comparing statistics on outputs with other large national and state libraries from different cultures, all of which are meeting different agendas, but one of analysing excellence within a known cultural context, and seeking through a supportive peer review process continual openness to change and improvement. Best practice in benchmarking would therefore include:

- a focus on process benchmarking and peer review with other agencies and organisations within the culture ;
- the development, through peer review, of performance measures that cover inputs, process, outputs and outcomes;
- attention to change management principles to ensure change is embedded in the organisation;
- an underlying research basis demonstrating construct validity, and attention to cultural and organisational context.

By incorporating these principles benchmarking can become a very effective way of helping national libraries adapt to a changing environment while keeping a focus on quality improvement.

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