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Session 1

Performance Measures for 21st Century Libraries

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"Why a duck?" Chico Marx famously asked in *Cocoanuts* (Paramount, 1929). Well, we might ask: "Why a library?"

What are the crucial aspects of library services to measure to ensure the library is responsive, efficient and effective?

What are these twenty-first century libraries whose performance we wish to measure? In fact, many people question the value of libraries at all in the twenty-first century, often citing the alternative supposedly offered by the Internet: "Why do you need a library when all the information you might want can be found on the Internet?" They sometimes go further by trying to demonstrate their understanding through such comments as "your library must be very empty now since students are just using the Internet". In contrast, a recent study in the UK has highlighted the importance of public libraries but identified fundamental structural problems in their activities and suggested that "there may be no libraries to provide these excellent services to readers in ten or fifteen years' time" if the problems are not addressed (Coates 2004 p.1). That report holds a mirror up to the public library services of the UK which indicates that all is not well – but are the indicators it uses appropriate? CILIP, the UK professional association, questions its assumptions but agrees that there are areas for improvement (CILIP 2004).

In both these examples the contending parties have different ideas about the significant performance measures for libraries. This is similar, but less hilarious, confusion than that displayed in *Cocoanuts*. Groucho was actually trying to tell Chico "that's a viaduct" but, mishearing, Chico responded: "Why a duck? Why a- why a duck? Why-a-no-chicken?" When trying to determine the performance of a library, similar confusion often occurs. We think that we are talking about a viaduct but really measuring the performance of a duck.

Consequently, when we are trying to measure the performance of a library, twenty-first century or otherwise, the first issue is to consider the reasons for which the library exists. Then we can begin to consider whether it fulfils those purposes, how well it performs, and we can engage with the topic of this conference, measuring library performance.

Popular images of libraries demonstrate considerable continuities with an emphasis on collection strength and havens for quiet reading. However, the successive emphases in librarianship on accumulating documentary resources, organising and providing access to them, providing access to information, offering assistance and developing information literacy can be seen as a progression of paradigm shifts. The paradigms of library service reflect changes in the profession, its priorities and its image. The shift from the book centred library to the digital library can be identified as the latest in a succession of shifts through six dominant paradigms: *treasury*, *education*, *revolutionary*, *democracy*, *access* and *connected* (Byrne 2003). The paradigms developed in succession, the more recent to a degree supplanting the previous but all continuing to resonate in the operation of libraries, the practice of librarians and the expectations of the community.

Historically, libraries have been regarded primarily as storehouses of knowledge. They served the utilitarian purpose of keeping records, knowledge, works of imagination to enable the work of state and religion and for the scholar. Great libraries grew from archives of records and collections of literature. Like museums, they offer a means for engagement with other times and other cultures which may be detached from everyday life. Their buildings and collections are considered to be significant civic monuments which testify to the greatness of the communities or individuals that created them as well as the cultural knowledge they transmit. Builders and curators of those collections ensure that the recorded heritage of human thoughts, inventions and aspirations will be preserved and available across boundaries and through time. This *treasury paradigm* emphasises the resources collected by the library and its success can be measured in terms of collection size and comprehensiveness and derivative measures relating to processing and preservation.

Some of the earliest libraries became centres for scholarship. But only a few people could enjoy and exploit reading and libraries before Gutenberg. The proliferation of publishing and spread of literacy which followed his innovation dramatically changed both Europe and the countries to which the new tracts, technologies and skills were taken. It became possible for readers to contemplate the clash of ideas which could be transmitted across borders and cultures. With the mid nineteenth century invention of the modern public library, the *education paradigm* proposed that society would benefit from the provision of assistance to individuals to better themselves. To their previous roles, librarians added that of guide, assisting students to navigate to the information resources required and to develop the skills to be self sufficient. The success of these libraries should be measured in terms of their capacity to change lives by supporting education – whether formal or informal – and to develop skills in acquiring and using information from recorded sources, what we have come to call information literacy.

From the nineteenth century, revolutionaries recognised the role of libraries in their struggles. In this *revolutionary paradigm*, which persists in Cuba but has been largely abandoned elsewhere, no purpose can be envisaged for societal institutions, including libraries, which does not serve the revolution. Their success can be considered only in such terms but, nevertheless, their work might include achievements with other benefits such as the promotion of reading and literacy. In contrast, through the *democracy paradigm* the library is considered to exemplify democratic values in being 'open to all' and designed to accommodate a plurality of ideas and views. This conception of libraries has been formally recognised in American librarianship for some sixty years, since the *Library Bill of Rights* (American Library Association 1939), and subsequently elsewhere. Its purposes include education, information, assisting personal development, services to children and young people, providing a focus for cultural development, and offering a public meeting place. It is a means for constructing social capital, maintaining viable communities, and promoting quality of life.

Although there were earlier arrangements of collections and inventories in the ancient libraries, the technique-driven *access paradigm* began with the development of cataloguing rules and classification systems which revolutionised the practice of librarianship. The reorientation to access started at the British Museum and was extended when Panizzi was challenged by Carlyle who had been unable to find the collections of French Revolutionary tracts in the catalogue. "'For all practical purposes,' Carlyle complained, 'this collection of ours might as well have been locked up in water-tight chests and sunk on the Dogger Bank as put in the British Museum.' …". Panizzi, somewhat grudgingly, acknowledged Carlyle's suggestion that there should be members of the staff to whom readers might go for information and assistance, a reform that had to wait for nearly a century before it was fully implemented (Miller 1988, pp. 178-179). The collections of individual libraries were rendered more accessible but, more significantly, catalogues became, in effect, charts aiding navigation to recorded knowledge in a network of libraries. Innovations such as union catalogues and interlibrary loans made it easy to use the resources of many libraries which helped clients obtain what they wanted while freeing the libraries from any pretensions towards universality. It is an approach which has been labelled access to information *just in time* to meet the client's needs rather than acquisition *just in case* a client might need the resource (Nichols and Smith 2001). The emphasis is on satisfying the clients' needs through delivery from the local collections or those in other libraries.

Benefiting from the creation of bibliographic, factual and fulltext databases, the application of powerful inquiry technologies, and their linkage through complex communications networks, a new model has emerged over the last decade or so. It might be called the *connected paradigm*. In contrast to the access paradigm, the focus has shifted from the library as gateway, to emphasise the links in the network as a growing array of services is provided digitally via ICTs. The digital or electronic libraries and information services have come to be considered the nodes in a network designed to provide immediate access to information. In terms of content, delivery of abstracted information is emphasised - with little of no interest in the physical format in which it might be conveyed. In contrast to the earlier paradigms, and even the access paradigm with which it shares many characteristics, the connected paradigm has been freed from territorial constraints and is no longer building or collection centred.

Thus, the crucial aspects of library services which need to be measured in order to ensure that a library is responsive, efficient and effective are conditional on the nature and purposes of the library. We need to know whether it is a duck, chicken or viaduct. If its purposes are collection centred then we need measures which demonstrate the quality of the collection, if access focussed then we need those measures which show how effectively it assists its clients to access desired information, if community oriented then those which indicate how it helps build social capital, and so on. Of course most libraries serve multifarious purposes. The twenty-first century library is not only the digital library but a library which is tailored to its goals and the needs of its clients.

An example: the NLA

The National Library of Australia, to take an example which is familiar to all of us, expresses its role in the following terms:

> Our role, as defined by the National Library of Australia Act (1960), is to ensure that documentary resources of national significance relating to Australia and the Australian people, as well as significant non-Australian library materials, are collected, preserved and made accessible either through the Library itself or through collaborative arrangements with other libraries and information providers. By offering a strong national focus in all that we do, and cooperating with others who share our goals, we contribute to the continuing vitality of Australia's culture and heritage (National Library of Australia 2004a).

In its role as a leader among Australian libraries it engages in a range of activities including:

- Digital archiving of Australian online publications
- Digitisation of all new picture acquisitions as well as significant Australian books, serials, manuscripts, maps, printed music and sound recordings.
- Development of the Australian library and information infrastructure
- Creation and use of persistent identifiers for the permanent naming of Internet resources.
- Preservation of library materials
- Resource sharing through Kinetica and related services within the Australian library community.
- Promotion of rights management to protect the rights of creators and publishers.
- Creation and promotion of subject gateways (National Library of Australia 2004b)

However, in the context of this paper, it is its direct services to clients which are more relevant. They include:

- Use of the collections in the reading rooms
- Loans or copying of items from the collections

- Access to the NLA web site which offers
    - Online catalogue
    - Kinetica
    - Digitised materials
    - Electronic journals
- Interpretation of Australian collections through exhibitions, publications, seminars and other public events (National Library of Australia 2004a).

Its purposes can therefore be described in terms of four of the six dominant paradigms: treasury, democracy, access and connected. The revolutionary is not relevant and there is little emphasis on the education paradigm but the connected has been important since the advent of networked services. Its performance indicators should demonstrate how it fulfils the purposes labelled via those paradigms. It therefore frames them in terms of four output areas which reflect its purposes:

- The collection
- Information services
- Public programs
- Australian library network services (National Library of Australia 2003).

In addition it must of course report on its financial performance, compliance with legislation and other statutory requirements. I shall return to some examples of the National Library's performance measures later.

How can appropriate performance measures be identified?

Accepting that we now know the purposes of a library, how do we set about choosing appropriate performance indicators? We are all probably familiar with the saying "If it looks like a duck, walks like a duck and quacks like a duck, then it just may be a duck"[1]. If we know that our library is attempting to be a duck, how will we know if it is looking like a duck, walking very well as a duck and quacking beautifully for a duck so well that we can conclude that it is a very good duck – and not a viaduct?

To take a university library such as the UTS Library: it exists because the University of Technology, Sydney exists. It exists to support the purposes of the University of Technology, Sydney: learning, teaching, research, community engagement, all facilitated by administrative activities. Its primary purposes can thus be identified with the education paradigm but, as a twenty-first century library, it emphasises access and operates in a connected mode. While we build research collections to support areas of research emphasis within the University and to be able to contribute to collaborative library provision, we are a million miles from the treasury paradigm. Our emphasis in that respect is utilitarian – focussing on those activities which serve learning and teaching, research and scholarship. But, to a degree, we also support the democracy

[1] Attributed to Walter Reuther, American labour leader referring to the identification of Communist affiliations during the McCarthy era (*The Oxford Dictionary of 20th Century Quotations*, Oxford, OUP, 1998, p.263).

paradigm by providing community access to our resources and services. We offer that access as part of the University's commitment to engagement with the community: a commitment which is both required by the Act of Parliament which established the University and willingly embraced by most of the staff and some of the students.

In serving the needs of our clients, we provide an extensive range of services and access to an enormous number of resources but most of them are not held in the Library's premises. To take one example, of the 20,984 current individual journals and other serials delivered by the Library, 16,597 are available online and 4,387 in print. They are being joined by an increasing number of e-books - 12,311 were recently loaded from Ebrary, a cross disciplinary e-book collection. Those e-resources are not held physically in the Library but they are none the less 'held' in the sense of being purchased and made available to our clients. They are as available as any of the physical resources, if not more so: the 16,597 titles are hot linked from the UTS:Library catalogue and available 24 hours a day, 7 days a week from any Internet connected location.

Thus, when we attempt to measure our capacity to provide the resources needed to serve learning and teaching, and research and scholarship, we need to embrace a wide variety of resources, not just static collections, as well as a multitude of services. When we measure usage, we also need to consider the diversity of client demand for services and resources via a variety of formats and delivery systems. This is not a trivial task.

We can turn to the long established CAUL Statistics (2003) and look at such dimensions as:

- Opening hours
- Number of seats
- Total staff
- Total number of loans
- Number of reserve collection loans
- Original items supplied by ILL
- Number acquired during the year
- Total in library at end of year
- New individual print and non-print serial titles
- New individual electronic serial titles
- Number of titles within aggregations
- Total current serial titles
- Expenditure on non-serials
- Expenditure on serials subscriptions
- Salaries
- Total students (persons & EFTSU)
- Other registered users (persons)
- Institutional population

And many others … They have evolved over the years but still emphasise the physical library with physical collections sitting among study areas in buildings to which clients come. This is a long way from the twenty-first century library services which we offer at UTS.

The data provide a useful record but they do not indicate performance until we start to contextualise them. By comparing our own data from year to year, the statistics tell us how our resources and services are growing or shrinking. Comparison with data from others indicates how we are ranked against each other. CAUL even provides rankings on some key areas of comparison:

- Seats per 100 population members

- Library staff per 100 population members
- Non-serial volumes purchased per population member
- Serial titles per population member
- Serials expenditure per population member
- Acquisitions expenditure per population member
- Salaries expenditure per population member
- Total expenditure per population member
- Percentage expenditure on information resources
- Percentage expenditure on salaries

These are interesting and used regularly by university librarians when we are trying to persuade recalcitrant university administrations to give us more money, more staff or more space (usually receiving the same response as Oliver Twist when he asked for more). But they do not really tell us how we are performing, except perhaps within our institutional political games, because all except the last two are input measures. They tell us what we are injecting to sustain the services and develop the resources but they don’t tell us anything about the outcomes, the results we achieve against our goals.

The last two, ‘percentage expenditure on information resources’ and ‘percentage expenditure on salaries’ give us an indication of how our priorities compare with others in terms of emphasising the provision of information resources versus providing services by employing staff. However, the comparisons have little validity because any decision to devote more resources to one or the other depends on so many other factors including the number of campuses and branch libraries that need to be serviced, the staff profile, the nature of the university’s programs, etc.

There are many other measures we can use. Many were listed in an IFLA publication *Measuring quality* (Poll and te Boekhorst 1996) and in other publications including the very valuable proceedings of the Northumbria International Conference on Performance Measurement in Libraries and Information Services. Much good work has been done on library performance measurement but it is hard to find effective ways of measuring the outcomes for clients. We often turn to satisfaction measures such as LibQual+, developed by the Association of Research Libraries in the US, but they do not really tell us whether our services and resources have produced the desired outcomes for clients. In an academic library they don’t indicate for us the degree to which we have assisted students to achieve better results in their study, much less how we might have helped prepare them for their future lives and careers. Nevertheless, satisfaction measures can offer an appreciation of the responses of clients to the services and resources provided – or at least of the probability of riots over library services – even if they cannot conclusively confirm the quality of services and resources. They consist essentially of clients’ estimations of performance against their expectations of the library. As their expectations rise, it is likely that perceived performance may drop.

At UTS, we have twice used a satisfaction survey administered by the Rodski Behavioural Group. We hoped that it would help us identify priorities through clients’ eyes and to compare the results with other university libraries (and let them compare with us). Despite some reservations about the methodology, we have analysed and used the data. In brief, the September 2003 results indicated that the majority of clients reported overall quality and general satisfaction as high at UTS Library. In particular 34% of respondents identified the quality as extremely high (an improvement on the previous year's 31%) ie a ranking of 6-7, with a further 43% ranking the Library at 5 out of 7. In relation to overall ratings of satisfaction, the majority of our clients reported relatively high levels of satisfaction. 31% identified their level of satisfaction as extremely high, with only 2% indicating their level of satisfaction as extremely low. The results suggested that the issue causing major concern was the number of computer workstations – a finding we share with many other Australian university libraries since the demand for workstations appears to be inexhaustible. Other feedback has helped us prioritise changes such as the extension of library opening hours. Due to our concerns about the Rodski methodology we are currently testing LibQual+.

One perennial issue noted in our polling and in the University run general Student Satisfaction Surveys has been access to recommended reading for coursework. It is quite a challenge to provide the sufficient copies to the very large classes of hundreds of students which are prevalent in Australian universities today. We have tried a range of measures to address this reported concern, extending from the establishment of an e-reserve linked to the University's online learning system to the purchase of multiple copies of textbooks, seven day loan periods, purchase of e-books, etc. But how do we know how effective these initiatives have been?

One way is to ask the clients about specific items for which they are looking rather than just their general levels of satisfaction. At UTS, we have been using the CAUL Materials Availability Survey annually since 2000 to give us an indication of success in finding books and other physical items in our campus libraries. It tells us that on average our clients can find the specific physical items they are seeking on the days of the survey 66% of the time and that we hold 94% of the items they are seeking. It helps us diagnose the reasons they cannot find items on the day they looked including that the item was on loan, that they couldn't locate it in the catalogue or they couldn't find it on the shelf. This provides much clearer depictions of the problem but some interpretation is needed because the immediate reason may reflect another cause. For example, we concluded that "failure at the shelf" in our City Campus Library was, at least in part, a consequence of poor lighting in parts of the collection. Improved lighting resulted in measurable improvement when we surveyed the following year – demonstrating the value of both measurement and careful analysis.

To look beyond academic libraries, we can return to the National Library and consider the performance indicators reported in its annual report. In regard to "Information services" the NLA uses:

	MEASURE	TARGET	ACHIEVED
Effectiveness	Percentage of requests for collection items	85%	86%
Quality	Percentage of users satisfied with the information services provided	95%	96%
Quantity	Number of information service transactions	2 410 000	2 527 697
Price	Cost per information services transaction	$9.96	$9.21

While for "The collections" we see:

	MEASURE	TARGET	ACHIEVED
Effectiveness	*Appropriate and effective collecting* Percentage of Australian publications within the Collection Development Policy that have been collected	85%	87%
	Effective access to the collection Percentage of new items catalogued on the National Bibliographic Database	100%	100%
	Effective access to the collection Percentage of targeted older material catalogued on the National Bibliographic Database	100%	100%
Quality	Percentage of the items checked in, catalogued or indexed within standards/timeframes	95%	95%
	Percentage of the collection maintained within set standards	85%	84%
Quantity	Collection items stored and maintained	5 479 000	5 486 974
	Collection items acquired and/or processed or digitised	507 000	522 327
Price	Cost per collection item maintained	$0.38	$0.37
	Cost per collection item acquired and/or processed	$36.73	$33.53

Thus, the National Library uses a four part schema for its indicators: effectiveness, quality, quantity, price.

The first, effectiveness, presents one or more key indicators of the performance of the Library in meeting its objectives in each outcome area. It can be applied easily when something like a 'success rate' can be measured.

The second, quality, is more problematic. It is another measure of performance and can be applied easily in terms of success in handling materials or projects within established standards or other criteria but is less easily applied to client services for which client satisfaction is often adopted as the best measure although it is really a measure of responsiveness rather than quality. With the former, more objective, measures it is usually easier to diagnose aspects to be improved while the latter, subjective assessments the causes are likely to be multifactorial.

The third element of the schema is quantity which gives an indication of the scale of the activity and can over time demonstrate whether it is growing or shrinking but it gives little indication of the value of the activity. That value might be assessed by comparing demand for a service at one library with that at another and normalising by size of client population or an equivalent factor. Such comparisons must be made very carefully because they are contingent on the complexities of the context in which each library operates.

The last element, price, gives an indication of efficiency, or at least cost efficiency, but is only useful if valid comparisons are available, either by examining trends within the individual library or by comparison with other libraries or comparable enterprises.

Several things emerge from this discussion of some aspects of measurement at UTS:Library and the National Library of Australia. In the first place, we need to know what our goals are so that we can choose measures which will indicate how effective, efficient and responsive our libraries are or are perceived to be by our clients. We need to express the goals clearly enough to be able to identify relevant measures and then to select measures which will be valid and reliable and truly indicative of performance in achieving the desired outcomes.

Secondly, the measures are nothing more than indicators which will be suggestive of our performance and of reasons for success or failure in meeting our goals. In most cases we will need to undertake more investigation and analysis to determine what we must do to improve performance in areas of concern. For example, the National Library comments on its effectiveness measure for information services that:

> "A major survey of users was undertaken in May, with 96 per cent of users expressing satisfaction with the information services provided; 67 per cent of users reported they were very satisfied with reference services and facilities. This represents a significant improvement from 41 per cent in 2000 and 53 per cent in 2001. The survey included in-depth interviews, which elicited detailed comment on user experiences. Recent initiatives such as automated call slips and the significant growth in availability of electronic information services have been well received by those using the Library." (National Library of Australia 2003)

This note shows that more detailed information was required than the bald statistic that 96 per cent of users expressed satisfaction with the information services provided. And further analysis was needed to conclude that initiatives such as automated call slips and enhanced electronic information services would be welcomed by those using the Library and then to determine that they have indeed been successful.

Thirdly, the measures need to be considered in relation to each other through a schema such as that adopted by the National Library or by means of such techniques as the Balanced Scorecard. Only by adopting such a framework can we be sure that the measures provide an integrated overview of the success of our services in meeting their objectives, remembering always that indicators only indicate – we have to consider them and then take appropriate action.

And, finally, the data against the measures need to be compared with comparable data from other libraries or organisations undertaking similar activities. This process of benchmarking is crucial. It helps identify acceptable standards of resource provision and service in a complex and changing environment. Appropriate benchmarking can help us see our services through new eyes, taking us beyond the comfort of complacency.

How can measurement assist in developing customer focus and tailoring library services to customer needs?

The report on public libraries in the UK, to which I referred earlier, offers an example of an outsider's look at library services. Its author is an experienced bookseller who is evidently both very supportive of public library services and critical of their performance. He adopted the following key criteria:

- Attractive, welcoming, accessible and safe buildings, designed to meet the library needs of all sections of the community and able to act as study centres;
- An extensive and wide range of books, computers, reference works, electronic databases, newspapers and magazines selected to meet the needs of all sections of the community whether they are currently library users or not;
- Long opening hours from early morning to late evening and including Sundays; improved access for those who may be in any way at a disadvantage; and mobile libraries and home services which seek out the remote and less mobile in the community (Coates 2004, p. 4).

His report card was based on the performance of the Hampshire County Library Service and national data. This is not the occasion to debate his conclusions but his work does highlight the need for us to select performance measures which are appropriate to the goals of our library services. In assessing the performance of UK public libraries, he has emphasised physical accessibility, aesthetic and social considerations, and the variety and availability of resources. Adoption of a set of indicators which would indicate performance against those key criteria would go a long way towards reinforcing customer focus and tailoring library services to customer needs in UK public libraries if that should be necessary.

An equivalent set of key criteria and corresponding performance indicators should be identified for our libraries and information services if we are also to fulfil our goals and meet the needs of our clients.

How can the value added by the library be expressed to the various stakeholders?

But clients aren't the only stakeholders. In a university, the stakeholders include the coursework and research students, the academic staff engaged in teaching and research, the senior administration and university council to which the university librarian is ultimately accountable, and the wider community which has established universities to fulfil certain functions. Similarly broad sets of stakeholders could be identified for other types of libraries and information services. In some they might be relatively tight, such as staff and management for a corporate information service, in others very broad, as in the case of the National Library which responds to the whole Australian community, to specialist groups such as historians, to Parliament and the federal bureaucracy, to peer organisation in the arts and cultural spheres and, to the library sector.

By selecting indicators wisely and presenting them effectively we can communicate the importance of our services to all of those stakeholders and be recognised for the value we add to our organisations and communities. A simple scorecard might be adequate in many contexts and is certainly suitable when accounting to management and boards. Other situations require more persuasive and focussed approaches which might include newsletters, presentations or websites.

Conclusion

Libraries are changing, and the measurement of their performance must reflect their changing purposes and priorities. It must be firmly based in the nature and role of each library, assessed by means of valid criteria and effectively communicated to all stakeholders. Performance management can help us get more value out of the investment in our libraries and help us obtain the resources we need to fulfil our missions. The other papers in this conference will explore some to the major dimensions of measuring performance of contemporary libraries and information services in this twenty-first century.

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