

Peter Brophy

The Quality of Libraries

1. Introduction

In a world where the Internet, with its Yahoos and Googles, seems to provide more than enough information for anyone to absorb, there are those who question the future of library services as we have known them. For this reason if for no other, the ability to provide convincing evidence of the benefits of library services is a critical issue, and it has been much discussed in our professional literature. Such debates reflect a concern that the services for which we as librarians are responsible should be the best that it is possible to deliver, and should be clearly focused on the needs of the users we serve. This concern finds expression in efforts to establish methodologies which will enable the quality of individual services to be assessed, and which will assist in their continuous improvement.

As well as focusing on the library as a service, it is common to hear professionals speak of “quality assured” information resources, most often though not exclusively in the context of online services. This is a way of reflecting that the content of our libraries is not a random sub-set of the universe of published information but is a carefully selected representation of the best of humankind’s recorded knowledge. Over many years librarians have developed sophisticated and complex selection mechanisms, taking note of such matters as peer review (largely for journal articles), publisher reputation (for monographs) and so on, and relating these to the known interests of the user community, present and future.

“Quality” is thus a prominent concept in professional debates. The aim of this article is to reflect on the work that has been undertaken in this field and to offer some observations on possible future directions. It explores different understandings of “quality” and relates these to the mainstream of management approaches. There are three foci for this discussion: the use of performance indicators, which also provides an historical perspective; the “quality attributes” approach pioneered by Garvin; and methodologies which seek to explore the gaps between user expectations and perceived performance, based upon SERVQUAL. Finally, a number of techniques which aim to provide a synthesis of methodologies, in order to provide a rounded picture of library

The Quality of Libraries

performance, are noted. Throughout there is a concern to focus on the question of impact, to ask, “Do libraries change lives?”.

2. Quality

In the general management literature, the classic definitions of “quality” emerged from the work of a number of researchers and writers, known collectively as the “quality gurus” (see Brophy and Coulling (1996, Chapter 2)). They developed a series of statements about and definitions of the concept of quality, of which the most commonly quoted are “quality is fitness for purpose” and “quality is conformance to requirements”. These insights created something of a sea-change in attitudes to managing quality, sometimes assisted by an arresting or even controversial style of presentation. So, for example, Philip Crosby was fond of stating that “there is no such thing as a quality problem”. What he meant was that “so-called quality problems are always created by bad management, and can be rectified by management. They do not exist by themselves. Attend to the management issue and the so-called “quality problem” will be resolved.” (Brophy and Coulling, 1996) Later commentators made similar points, yet always with a focus on the needs of customers. So Peters and Waterman (1982), to take a typical example, wrote “Remain close to your customers. Find out what the customer wants and likes and concentrate on providing that”.

It is interesting to consider these ideas alongside the now classic “Laws of Library Science” formulated by S.R. Ranganathan and published in 1931:

- Books are for use
- Every reader his book
- Every book its reader
- Save the time of the reader
- A library is a growing organism. (Ranganathan, 1931)

What is of importance, of course, is the emphasis that these “Laws” gave to the perspective of the **user** of library services and materials, and it is here that the quality management literature and that of librarianship meet and intersect. As noted elsewhere, “while some of these statements have dated – the last in particular must be questionable (unless it is taken to refer to the World Wide Web!) – it is interesting to note that the emphasis in these “Laws” is very much on the library user rather than the collection itself and very much about access.” (Brophy, 2001)

Peter Brophy

It was in the 1990s that interest in quality management among librarians reached its peak. In a number of countries, researchers and practitioners undertook a variety of investigations and studies to relate the more general quality management approaches and practices to libraries. This interest was epitomised by a Total Quality Management conference held as part of the Library Technology Fair at Hatfield, U.K., in 1993. Authors from the UK Institute of Management published a guide to ISO 9000, the international quality management standard, in the same year (Ellis and Norton, 1994). In the USA Hernon and Altman (1998) and others explored the application of quality management approaches. Many other examples could be cited.

The concept of quality thus came to considerable prominence in the thinking of librarians, and this interest has continued. Before considering these developments further, however, it is useful to look at other ways in which the performance of libraries has been assessed and to consider how this relates to the management of quality.

3. Performance Measurement

The measurement of the performance of systems goes back at least as far as the invention of manufacturing technologies at the start of the Industrial Revolution – indeed it could be argued that it goes back to the earliest human societies, where no doubt the performance of individual hunter-gatherers was watched closely by the group! However, systematic approaches are most usefully traced to the development and acceptance of Frederick W. Taylor’s management theories (and specifically the 1909 publication of his *Principles of Scientific Management*), which led to an emphasis on inspection and control. Although he built on the work of earlier theoreticians and practitioners, it was Taylor’s emphasis on practical application, and on the need for managers to design work, that led to widespread acceptance of his methods. He was able to point to considerable successes in the ways he employed his theories. For example, he systematically examined the process of shovelling coal at the Bethlehem steelworks and was able to redesign the shovels used for each grade. As a result the workforce of “coal shovellers” was cut from 500 to 140. Other managers and owners were quick to take notice of his revolutionary methods and to apply them to their own industries. It was only gradually that the limitations of this highly mechanistic approach, which in effect treated human beings as machines, came to be recognised.

In 1931 – the same year that Ranganathan’s “Laws” appeared – W.A. Shewhart published *Economic Control of Quality of Manufactured Products* (Shewhart, 1931). This contribution

The Quality of Libraries

marked a shift towards the use of statistical methods, and from these beginnings statistical quality control developed. While the emphasis still remained on the productivity of the individual worker, more attention started to be paid to scientific approaches to management. A number of different schools of thought developed, most notably operational (or operations) research which encouraged the formation of multi-disciplinary teams to bring a range of techniques to bear on complex organisational problems. Linear, and later dynamic, programming was introduced to enable complex management and organisational problems to be tackled. For a time, organization & methods (O&M) and work study became fashionable.

More recently, human relations approaches have become more prominent, recognising that full participation by all employees, in decision making as well as in production, produces significant benefits. Currently the emphasis is on holistic approaches which involve a focus on benefits as well as costs and on the interests of all stakeholders, both internal and external. However, running through all of these approaches are two threads: an enduring search for “quality”, which we consider below, and a need for robust and rigorous performance indicators. The nature of these indicators can be seen to mirror the dominant management theories of the day. Libraries have followed these trends closely.

Thus the earliest indicators used by libraries tended to refer to little more than the inputs to the system and a few rather crude outputs. For example, library annual reports would record the amounts spent, the numbers of books added to stock, the number of employees, and so on – all input measures. They would also record the number of books issued and perhaps the number of visitors to the library – straightforward outputs. Calculating ratios and trends over time provided useful information for policy makers and managers, while the use of such statistics at the micro level provided data on the basis of which such matters as staffing levels in different departments could be assessed.

Increasingly sophisticated indicators and frameworks were developed by, inter alia, Van House et al. (1990) and King Research (1990), while in 1995 the European Commission funded a toolkit of library performance indicators and techniques (Ward et al., 1995) and the UK's SCOUNL produced its *The Effective Academic Library* (Higher Education Funding Council for England, 1995). Similarly, other professional bodies such as the Association of Research Libraries (ARL) and the International Federation of Library Associations and Institutions (IFLA) established working groups to develop systematic approaches, while the International Standards Organisation was persuaded to support the development of an international standard for library performance indicators

Peter Brophy

(ISO11620, 1998). Indicators for electronic libraries were developed in the late 1990s, notably in the cross-European EQUINOX project (<<http://equinox.dcu.ie>> – see also Brophy and Clarke (2001)) and in the USA by McClure and Bertot (e.g. Bertot, 2001).

As part of this work, a major concern which has emerged in the general management literature in recent years started to be mirrored in librarianship. This is that overemphasis on inputs and outputs, and thus on efficiency, leads to loss of broader vision and the ignoring of opportunities both to innovate or simply to serve customers better. The argument, put forward strongly by such management “gurus” as Minzberg (1982) and Peters and Waterman (1982), is that there is a pressing need to move the focus onto outcomes and impacts – what is the effect on the customer of all these outputs? Does the customer receive and perceive real benefit from the service? What is the impact of the service?

In recent years such questions have been addressed by an increasing number of authors. Saracevic and Kantor (1997) provided a framework for studying the value that users experience as a result of library and information service use. More recently, the ARL has undertaken a “New Measures Initiative” (Association of Research Libraries, 2000; DeWitt, 2001). Hernon (2002), criticising current measures of outcomes and impact, writes that the key question is, “how did they (the library users) change their behaviour as a result of the service?”.

Brophy (2002) has suggested that impact itself needs to be thought of as a multi-layered concept – and that not all impacts are positive: “One way to approach the concept is to think of “levels” of impact. For example a library service may result in any of the following impacts:

- Hostility: a user may be so disappointed with the service that he or she decides that it is a total waste of money. Perhaps the result is a letter of condemnation to an influential third party such as a councillor. Hopefully, such impacts are very rare.
- Dismissive: the user is not actively hostile, but simply feels that the service is not worthwhile. It is a waste of personal effort to get involved, even if no attempt is made to undermine the service.
- None: the user has neither positive nor negative feelings or views about the service. It is almost as if it did not exist.
- Awareness raised: here the service has just about had a positive impact, but simply in terms of the user being made aware of something which he/she was not aware of before.

The Quality of Libraries

They know the service exists, do not dismiss it out of hand and might turn to it in the future if they feel a need.

- Better Informed: as a result of coming into contact with the service the user has better information than before. This information may have been memorised or recorded for future use.
- Improved knowledge: the information obtained has been considered and the user is now more knowledgeable about the subject.
- Changed perception: the knowledge gained has resulted in a change to the way that the user looks at a subject. Real learning has taken place.
- Changed world view: here the user has been transformed by the service. His or her view of the world has shifted significantly, and constructive learning has taken place which will have long term effects.
- Changed action: the new world view has led to the user acting in a way he or she would not have done before. Learning has turned into action, so that the encounter with the service has changed not just that user, but - in some way - the broader world."

The key question, of course, is how we might measure levels of impact experienced by users systematically and reliably. We return to this later.

4. Quality Attributes

The quality management movement would seem to have much in common with this shift in usage of performance indicators towards measures of outcome and impact. The classic definitions of quality, concerned with "fitness for the user's purpose", clearly relate to the benefits that customers perceive as arising from a service or product which they purchase or use. Recognising that these classic definitions are somewhat simplistic, a more sophisticated approach was developed by David Garvin in the USA in the 1980s. He recognised that "quality is a complex and multifaceted concept" and suggested that there are eight critical dimensions or attributes that can be used as a framework for determining the overall quality of a product or service (Garvin, 1987 – see below).

Garvin suggested that many of the problems of defining and recognising quality arise because the concept can be approached from many different perspectives. He suggested that at least five views can be identified in the literature and in practice:

Peter Brophy

- the transcendental view: quality can be recognised, but cannot be defined;
- the customer view: quality as fitness for the customer's purposes or conformance to the customer's requirements;
- the manufacturer view: quality as conformance to specification;
- the product view: quality is related to inherent characteristics of the product;
- the value-based view: quality is dependent on what a customer is willing to pay for it. (Garvin, 1984)

While Garvin's quality attributes approach was originally intended mainly for manufacturing industries it has subsequently been adapted for use in libraries and information services by Marchand (1990) and by Brophy and Griffiths (Brophy (1998); Griffiths and Brophy (2002), Griffiths (2003)). The latter team suggested that library and information services might be assessed on the basis of ten quality attributes. This approach may also be contrasted with the suggestion of Abels, White and Hahn (1997) concerning the quality attributes applicable to web pages (see also Madu and Madu, 2002). Table 1 below contrasts Garvin's original attributes with these later adaptations.

GARVIN	BROPHY and GRIFFITHS	ABELS et al.
<u>Performance</u> , the primary purpose of the product or service and how well it is achieving that primary purpose.	<u>Performance</u> , concerned with establishing confirmation that a library service meets its most basic purpose, such as making key information sources available on demand.	<u>Performance</u> based on use, including ease of use, and content.
<u>Features</u> , secondary characteristics which add to the service or product without being of its essence.	<u>Features</u> : aspects of the service which appeal to users but are beyond the essential core performance attributes, such as alerting services.	<u>Features</u> such as links to other sites which might better answer a particular question.

The Quality of Libraries

GARVIN	BROPHY and GRIFFITHS	ABELS et al.
<u>Reliability</u> , the consistency of the product or service's performance in use.	<u>Reliability</u> , which for information services would include availability of the service. Such problems as broken Web links, lack of reliability and slowness in speed of response would be measured as part of this attribute.	<u>Reliability</u> , including both availability and currency/accuracy of information provided.
<u>Conformance</u> , whether or not the product or service meets the agreed standard, which may be internally or externally generated.	<u>Conformance</u> : whether the service meets the agreed standard, including conformance questions around the utilisation of standards and protocols such as XML, RDF, Dublin Core, OAI, Z39.50 etc.	(Not defined)
<u>Durability</u> , the amount of use the product or service can provide before it deteriorates to a point where it needs replacement.	<u>Durability</u> , related to the sustainability of the information or library service over a period of time.	(Not defined)
	<u>Currency</u> of information, that is, how up to date the information provided is when it is retrieved.	(Treated as part of "Reliability")

Peter Brophy

GARVIN	BROPHY and GRIFFITHS	ABELS et al.
<p><u>Serviceability</u>, how easy it is to repair a product or correct a service when it goes wrong, including the level of inconvenience experienced by the customer.</p>	<p><u>Serviceability</u>, which may translate to the level of help available to users during, for example, information retrieval, or otherwise at the point of need. The availability of instructions and prompts throughout an online service, context sensitive help and the usefulness of that help could be measured in order to assess performance under this attribute.</p>	<p><u>Serviceability</u> concerned with the handling of complaints and conflicts, with the aim of creating a happy and satisfied customer.</p>
<p><u>Aesthetics</u>, the appearance of the product or service.</p>	<p><u>Aesthetics</u> and Image, both of the physical library and of web-based services based upon it.</p>	<p><u>Aesthetics</u>, concerned with visual attractiveness</p>
<p><u>Perceived quality</u>, in essence the reputation of the product or service among the population, especially those with whom the potential customer comes into contact.</p>	<p><u>Perceived Quality</u>: the user's view of the service as a whole and the information retrieved from it. It may be useful to measure perceptions both before and after a service is used.</p>	<p><u>Reputation</u>, related to past experiences of the site.</p>
	<p><u>Usability</u>, which is particularly relevant to electronic services and includes issues of accessibility.</p>	<p><u>Structure</u>, which is concerned with how information is structured within the web site's presentation.</p>

The Quality of Libraries

GARVIN	BROPHY and GRIFFITHS	ABELS et al.
		<u>Storage capability</u> , which is concerned with whether all required information can be stored in order to answer queries which may, for example, require an historical analysis.
		<u>Security and system integrity</u> , including the handling of payment (e.g. credit card) data.
		<u>Trust</u> , whether users are willing to disclose personal information. Closely linked to “Security and system integrity”.
		<u>Responsiveness</u> , which includes courtesy and willingness to be flexible (for example with a cancelled order).
		<u>Product/service differentiation and customization</u> , which asks what is unique about this particular web site, not least to differentiate it from its competitors.

Peter Brophy

GARVIN	BROPHY and GRIFFITHS	ABELS et al.
		<u>Web store policies</u> , which relates to the customer-orientation of policies and might involve a comparison with a high street store.
		<u>Assurance</u> , concerned with the creation of good customer experiences through the knowledgeable and courtesy of staff.
		<u>Empathy</u> , which may be expressed through the availability of individualised personal attention.

Table 1: Garvin’s Quality Attributes and their adaptation for library and web services

5. User Expectations and User Experience

Three American researchers, Zeithaml, Parasuraman and Berry (1990) worked with customer focus groups in each of four sectors (retail banking, credit cards, securities brokerage and product repair and maintenance) using market research based methodologies to establish the criteria used by customers in assessing the quality of services. Their work is interesting precisely because it deliberately focussed on how customers perceive quality in **services** rather than in **products**, and thus has considerable relevance to libraries. It is worth noting, incidentally, that this team of researchers observed that customers find it more difficult to assess the quality of services than the quality of products. By analysing the data from their focus groups, Zeithaml, Parasuraman and Berry were able to identify ten “dimensions” of service quality, common across all of the services examined, and closely related to Garvin’s analysis and the later adaptations described above. These dimensions were (adapted from Brophy, 1996):

The Quality of Libraries

1. Tangibles: is the service an attractive place to visit? Are the staff appropriately dressed? Do they use modern, up to date equipment?
2. Reliability: is my telephone call returned when the receptionist said it would be? Is my bank statement free of errors? Does the washing machine work when it has been repaired?
3. Responsiveness: when a problem occurs, is it quickly put right? Is the company willing to arrange to repair the washing machine at a time to suit me?
4. Competence: do front-line staff give the impression of knowing what they are doing? Similarly, does a repairer appear to know how to diagnose a fault and carry out a repair with confidence?
5. Courtesy: are staff pleasant, even when asked difficult (or what may appear to be ridiculous) questions? Does the repairer wipe his or her shoes rather than trample mud all over my hallway carpet? Do staff manage not to appear busy even when they are – so that I gain their attention when I need it?
6. Credibility: Does the service enjoy a good reputation - do other people speak well of it? Do I get a credible and worthwhile guarantee with a repair, such that I can have confidence that any problems will be put right quickly and without further expense?
7. Security: Is it safe to use the service? For example, is my credit card safe from unauthorised use? Do I have confidence that the repair was properly carried out to an acceptable standard?
8. Access: If I have a problem, can I get access to a senior member of staff to help me resolve the cause? Does the company answer the telephone when I ring? Is it easy to find the repair company's premises?
9. Communication: Is the service explained clearly and the options outlined comprehensively? Do the staff avoid using unnecessary jargon? Do they listen to me? If something unexpected occurs and the repair company cannot keep the appointment that they ha've made, do they contact me in good time to rearrange it?
10. Understanding the customer: If I am a regular customer, does someone on the staff recognise me? Do they try to understand my individual needs? Do they try to arrange the repair visit to meet my convenience rather than their own?

Peter Brophy

Zeithaml, Parasuraman and Berry went on to refine their analysis and published a set of five key issues, which have become known as the “Rater” set from the initial letters of each of the headings:

1. Reliability
2. Assurance
3. Tangibles
4. Empathy
5. Responsiveness.

Perhaps the most critical insight of these researchers was that methodologically quality may be measured by assessing the differences or “gaps” between customer expectations and customer experience. They developed this observation into a widely adopted methodology called SERVQUAL (Parasuraman, Berry and Zeithaml, 1988).

In recent years the Association of Research Libraries (ARL) has adapted this approach for use in libraries. LibQUAL+ is described by ARL as “a suite of services that libraries use to solicit, track, understand, and act upon users’ opinions of service quality” (see <<http://www.libqual.org/>>). Firmly based on the SERVQUAL methodology described above, LibQUAL+ has been adopted by a considerable number of academic libraries in the USA and further afield, including in the UK and France. The methodology has been described by Cook (2001).

Blixrud (2002) reports that over 78,000 individuals were surveyed by LibQUAL+ partners during 2002, producing initial findings that the dimensions of service that make up a library user’s perception of service quality include:

- “Service affect; i.e., responsiveness, assurance, empathy, and reliability – the human dimensions of library service
- Library as place; i.e., campus center of intellectual life, but may not be a concern if the physical facilities are adequate
- Personal control; i.e., ability to navigate both the information universe in general and the web in particular
- Information access; i.e., ubiquity of access meaning information delivered in the format, location, and time of choice and comprehensive collections.”

These generalised conclusions will be particularly valuable in moving forward the development of methodologies to capture users’ views of the quality of the library services they use.

6. Synthesis

It is readily apparent that the major challenge for library managers is to draw together these various strands of work into robust, economic and above all practical frameworks. Happily, there is evidence that this is happening. Librarians are showing considerable interest in such techniques as Benchmarking, the Balanced Scorecard and Storyboards. We will examine each briefly.

6.1 Benchmarking

The idea behind benchmarking is to formalise comparisons with other organisations which have something in common with one's own. Benchmarking is concerned with developing systematic and structured approaches to finding and implementing best practice. It links the identification of the best way of doing things in the sector (or even outwith the sector if useful examples can be found) with a determination to improve one's own organization and "to be the best".

Benchmarking can be internal or external. That is, it can be done within the organization, maybe across divisions or sections or maybe just by comparing new and old ways of doing things. Or it can be done externally, by comparing the organisation with others. Some sectors, including libraries in some countries, have developed their own "benchmarking clubs", where organisations agree to work together to share benchmarking methods and data.

While benchmarking may be more or less formal, it is often associated with iterative processes that draw in a range of both quantitative and qualitative methodologies. Rather than focusing on a particular technique or on the whole organisation, it seeks to use appropriate methodologies to explore particular issues in depth – before moving on to the next issue. It therefore encourages managers to range across the available techniques to select those which best suit a particular purpose, to undertake that analysis, determine and implement action, review – and move on.

There is now considerable experience of benchmarking in the library sector. Creaser (2003) notes that the following benefits were observed from one academic library benchmarking exercise in the UK:

- "Establishment of best practice
- Process improvements (large and small)
- Continued evaluation of customer opinion and needs
- Identification and validation of clear trends
- Networking between groups of staff involved in similar operations (quoted by many as "invaluable")

Peter Brophy

- Exchange of views (and the generation of new ideas!)
- Staff development including learning new analysis methods such as process improvements and activity based costing (ABC).
- Greater local ownership of processes and tasks
- Changing perspectives about individual roles and also overall purpose (both for library and academic staff and students)
- University recognition by establishing a solid reputation for the active use and
- Implementation of benchmarking performance measurement methods.”

6.2 The Balanced Scorecard

The Balanced Scorecard derives from the work of Kaplan and Norton (1992) in the USA but has been developed for use in the library sector by Poll in Germany (Poll, 2001), in Australia by Cribb and Hogan (2003), among others, and by a number of practitioners in the USA (e.g. Self (2003)), where the Library of Congress even has a video presentation available (see <[http://www.loc.gov/flicc/video/balance/balanced score.html](http://www.loc.gov/flicc/video/balance/balanced%20score.html)>). As Poll remarks, “service quality has many aspects – the Balanced Scorecard attempts to integrate them.”

The particular value of the Balanced Scorecard is that it ensures that the library is assessed from a range of different standpoints: that of the user; that of resource utilisation; that of internal processes; and that of learning and growth of the organisation. These four perspectives are centred around clarity of vision, of values and of strategy. In the Balanced Scorecard methodology, there is particular emphasis on the “double feedback loop”. This means that not only does feedback relate to the organization’s outputs, but it also relates to the outcomes and impacts.

The Balanced Scorecard helps an organisation to check whether improvements in one area may have been achieved at the expense of another, and so keeps the whole organisation in balance. Its underlying philosophy is very different to that of earlier control-based systems. As Kaplan and Norton (1992) noted:

“...because traditional measurement systems have sprung from the finance function, the systems have a control bias. That is, traditional performance measurement systems specify the particular actions they want employees to take and then measure to see whether the employees have in fact taken those actions.”

The Quality of Libraries

In that way, the systems try to control behaviour. Such measurement systems fit with the engineering mentality of the Industrial Age. The Balanced Scorecard, on the other hand ... puts strategy and vision, not control, at the centre. It establishes goals but assumes that people will adopt whatever behaviour and take whatever actions are necessary to arrive at those goals."

6.3 Storyboards

Although not widely used in the library and information sector, storyboards are an attempt to capture the qualitative evidence for service performance. In essence they attempt to capture the "story", very often of an individual user, which illuminates the effects that the service has had. They thus bring us back to the question of impact: it may be impossible to quantify the impacts of libraries in a scientific way, but what we can do is to record incidents in people's lives which, taken together, indicate the kinds of impact which are being felt. Two short examples from a study of The People's Network in the UK illustrate the approach (Brophy, 2003):

"I obtained a place at College on their basic ECDL (European Computer Driving Licence) course and used the library to practice some of the things I learned at the college. If it hadn't been for the initial use of the library computer I don't think I would have considered the college course ... I now have a new job in which I need computer skills. So from playing about with the library computer I now have a successful career, all because computers were installed in local libraries."

"(One user) is 72 and until recently has never clicked a mouse, seen a floppy disk or knew what the Internet was. Each week she brings her folder, floppy disk and walking stick to the library to enhance her growing knowledge and skill using the computer. The Computer Buddies Scheme has turned her quiet life around and after 4 months she is now adept at using the computer."

Storyboards focus very much on outcomes and help to illuminate what can sometimes be rather arid statistical descriptions. They cannot, however, be used on their own.

7. Conclusions

Peter Brophy

Clearly, the assessment of library quality has come a long way in recent years. On the one hand we now have robust sets of performance indicators which provide the basic "picture" of library performance. Beyond that, researchers and practitioners have developed ways to explore the customer experience, to find out whether users and non-users have positive or negative perceptions of library services, and to use these insights to better manage services.

The application of performance measurement and quality management approaches to libraries has clearly paid many dividends. But perhaps we are now seeing a movement beyond individual techniques in an attempt to draw on the best of what is now many years' experience and to synthesise the different approaches. As this becomes more commonplace, we will undoubtedly find ourselves looking again at the question of impact. Do our libraries actually do any good? We now have an increasing amount of evidence to support this assertion (see, for example, Poll (2003)). The question which remains is, how can we build on the achievements of those who have for years laid the foundations for, in Richard Orr's famous phrase, measuring the "goodness" of library services? (Orr, 1973)

Inspired by the successes of the past, we must continue to ask, "Do libraries change lives?" and we must continue to seek the evidence that, yes, indeed they do.

References

Abels, E.G., White, M.D. and Hahn, K. "Identifying user-based criteria for Web pages." *Internet Research: Electronic Networking Applications and Policy*, 7(4) 1997, 252-62.

Association of Research Libraries. *ARL New Measures Initiative*. <<http://www.arl.org/stats/newmeas/newmeas.html>>, 2000.

Bertot, J. "Measuring service quality in the networked environment: approaches and considerations." *Library Trends*, 49(4) 2001, 758-775.

Blixrud, J.C. "Evaluating library service quality: use of LibQUAL+™." *IATUL Proceedings (new series) 12, 23rd Annual IATUL Meeting, June 2-6, 2002, Kansas City, KS, USA*.

Brophy, P. and Coulling, K. R. *Quality Management for Information and Library Managers*, Aldershot: Gower, 1996.

The Quality of Libraries

Brophy, P. "It may be electronic but is it any good? Measuring the performance of electronic services." *Robots to Knowbots: the wider automation agenda. Proceedings of the Victorian Association for Library Automation 9th Biennial Conference, January 28-30 1998*. Melbourne, Australia: VALA, 1998, 217-230. <<http://www.vala.org.au/valaweb/num511.pdf>>

Brophy, P. *The Library in the Twenty-First Century*. London: Library Association Publishing, 2001.

Brophy, P. *The evaluation of public library online services: measuring impact*. London: Resource, 2002. <<http://www.peoplesnetwork.gov.uk/impact/impact-issue-paper.pdf>>

Brophy, P. *The People's Network: a turning point for public libraries: first findings*. London: Resource, 2003.

Brophy, P. and Clarke, Z. *EQUINOX: Library Performance Measurement and Quality Management System*: Telematics for Libraries Programme: Project LB-5634/A EQUINOX 24471/0: Deliverable D2.5: Edited Final Report. 2001 <http://equinox.dcu.ie/reports/d2_5.html>

Cook, C. (ed.) "The maturation of assessment in academic libraries: the role of LibQUAL+™." *Performance Measurement and Metrics*, 3(2) 2001, 34-112.

Creaser, C. (ed.) *As others see us: benchmarking in practice*. LISU Occasional Paper 33. Loughborough: Library & Information Statistics Unit, 2003.

Cribb, G. and Hogan, C. *Balanced scorecard: linking strategic planning to measurement and communication*, 2003 <<http://www.bond.edu.au/Library/staff/iatulpaper.pdf>>

DeWitt, D. (ed.) *Evaluating the Twenty-First Century Library: The Association of Research Libraries New Measures Initiative, 1997-2001*. New York: Haworth Press. 2001.

Ellis, D. and Norton, B. *Implementing BS5750 / ISO 9000 in libraries*. London: Aslib, 1993

Garvin, D. A. "What Does "Product Quality" Really Mean?" *Sloan Management Review*, 1984, 25-45.

Peter Brophy

Garvin, D. A. "Competing on the Eight Dimensions of Quality." *Harvard Business Review*, November-December, 1987, 108-109.

Griffiths, J.R. *Evaluation of the JISC Information Environment: student perceptions of services*. Information Research, 2003.

Griffiths, J.R. and Brophy, P. "Student searching behaviour in the JISC Information Environment." *Ariadne*, 33, 2002.
<<http://www.ariadne.ac.uk/issue33/edner/intro.html>>

Heath, F. et al. "Emerging Tools for Evaluating Digital Library Services: Conceptual Adaptations of LibQUAL+™ and CAPM." *Journal of Digital Information*, 4(2) 2003.
<<http://jodi.ecs.soton.ac.uk/Articles/v04/i02/Heath/>>

Hernon, P. "Quality: new directions in the research." *The Journal of Academic Librarianship*, 28(4) 2002, 224-231.

Hernon, P. and Altman, E. *Assessing service quality: satisfying the expectations of library customers*. Chicago: American Library Association, 1998.

Higher Education Funding Council for England. *The effective academic library: a framework for evaluating the performance of UK academic libraries: a consultative report to HEFC(E), SHEFC, HEFC(W) and DENI by the Joint Funding Council's Ad Hoc Group on performance indicators for libraries*. Bristol: HEFC(E), 1995.

Kaplan, R. S. and Norton, D. P. "The Balanced Scorecard: measures that drive performance." *Harvard Business Review*, 1992, 70-79.

International Organization for Standardisation (ISO). *ISO 11620: Information and documentation - library performance indicators*. ISO, 1988.

King Research Ltd. *Keys to success: performance indicators for public libraries*. London: HMSO, 1990.

Marchand, D. Managing information quality. In *Information quality: definitions and dimensions* (ed. I. Wormell) London: Taylor Graham, 1990, 7-17.

Minzberg, H. *Structures in fives: designing effective organizations*. Englewood Cliffs: Prentice-Hall, 1983.

The Quality of Libraries

Orr, R.H. "Measuring the goodness of library services: a general framework for considering quantitative measures." *Journal of Documentation*, 29(3) 1973, 313-332.

Parasuraman, A., Berry, L. L. and Zeithaml, V. A. "SERVQUAL: A multiple-scale for measuring customer perceptions of service quality." *Journal of Retailing*, 64 1988, 12-40.

Peters, T. and Waterman, R. J. *In search of excellence: lessons from America's best run companies*. New York: Warner Bros., 1982.

Poll, R. "Performance, processes and costs: managing service quality with the Balanced Scorecard." *Library Trends*, 49(4) 2001, 709-717.

Poll, R. "Measuring impact and outcome of libraries." *Performance Measurement and Metrics*, 4(1) 2003, 5-12.

Ranganathan, S. R. *Five Laws of Library Science*. Madras, India: Madras Library Association, 1931

Self, J. "From values to metrics: implementation of the balanced scorecard at a university library." *Performance Measurement and Metrics*, 4(2) 2003, 57-63.

Shewhart, W.A. *Economic control of quality of manufactured product*. London: Macmillan, 1931.

Taylor, F.W. *Principles of Scientific Management*. New York, Harper Bros., 1909

Van House, N. A., Weil, B. T. and McClure, C. E. *Measuring academic library performance: a practical approach*. London and Chicago: American Library Association, 1990

Ward, S. et al. *Library performance indicators and library management tools*. Luxembourg; European Commission DGXIII-E3. [EUR 16483 EN], 1995.

Zeithaml, V. A., Parasuraman, A. and Berry, L. L. *Delivering quality service: balancing customer perceptions and expectations*. London: Collier Macmillan, 1990.