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Value and impact: new trends in evaluating library and information services

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Abstract

This paper presents some recent approaches to the evaluation of library/information services, focusing on those which try to assess the 'real' value and impact of the services.

The question of evaluating the 'real' contribution of library and information services is a difficult one. Many services have relied on measuring activity - e.g. number of visits, number of documents supplied, number of accesses to digital materials – but this is never fully satisfactory.

This presentation discusses some recent trends and methods for assessing the 'true value' of library / information services, and their impact on the work and life of their users. This will be done partly by reporting on the literature, partly by an account of evaluations carried out by the presenters.

Particular emphasis will be placed on examples of methods for assigning an economic value to library services, for assessing the direct impact of information services on the work of their users, and for understanding how and why library services are valuable. Transferability of methods between sectors – national, special and public libraries – will also be highlighted.

Keywords

library service evaluation; impact studies; value studies; contingent valuation

Introduction

This paper aims to draw attention to some newer approaches to the assessment of the 'real value' of library/information services. After some initial discussion of the topic in general, there are three main sections to the paper, dealing respectively with: ways of assessing the monetary value of the services to their users; assessing the direct impact of services of their users' working practices; and understanding the nature of the value imparted. These are based partly on analysis of the literature, partly on first-hand experience by the authors in developing evaluation methods. The paper concludes with some thoughts on the future of service evaluation.

Evaluating library services

The evaluation of library/information services is complex, because there are a number of rather general ways in which it may be approached. For recent overviews, see Matthews (2007), Crawford (2006), Booth (2004) Poll and Boekhorst (2007), and Bawden, Petuchovaite and Vilar (2005).

All evaluations must 'measure' something, either by quantitative or qualitative assessment, or by a hybrid approach. A useful six-way typology of what may be measured, originally suggested by the American academic Wilfred Lancaster, is as follows.

Cost

This measures what a service costs to provide, a collection to purchase, etc. This can usually be known with accuracy, and replacement costs can be assessed by standard financial techniques.

Effectiveness

This shows how well the system is working, compared to what it is expected to do. It may often be measured quantitatively, using for example recall and precision measures for a retrieval system, or expressed user satisfaction for a service.

Benefit

This implies a knowledge of the 'true' value of a system or service, and is notoriously difficult to measure. It is usually approached by qualitative or semi-qualitative measures.

Cost-effectiveness

This approach attempts to relate the measured effectiveness of a system or service with its known costs. Usually this approach is used on an isolated component of a total information service, and usually in a comparison between two alternatives, e.g. whether to subscribe to information from provider A or B, or whether to outsource some function.

Cost-benefit

This attempts to relate the cost of providing a service to its 'real' benefits, but there are few convincing examples. Impact studies and the application of techniques such as contingent valuation are among them.

Cost-performance-benefit

This aims at the investigation of the whole set of relationships between the costs, performance, and benefits of an information service. No convincing study of this type has ever been carried out.

Further more, there are a variety of ways in which evaluation may be carried out. There are two main styles of evaluation: laboratory and operational. They are complementary, in that each can give insights into how well information systems and services perform, and why, which the other cannot. Three other general approaches, which may merit the name of 'style' are auditing/mapping, user studies and impact studies; there is some overlap between these approaches, e.g. it is not possible to focus on impacts without considering users.

Laboratory

Laboratory style evaluations seek to investigate in detail particular aspects of information systems; this is usually a tool for evaluation of systems, rather than resources or services. Laboratory-style evaluation tries to control or remove as many variables as possible from the situation being investigated, so as to focus 'cleanly' on the few that remain; measures are usually quantitative. This leads to the criticism that such evaluations are unrealistic, because they do not involve real user concerns or real information needs. This style of evaluation is most commonly used in academic or research settings, as new systems are being developed.

Operational

These are evaluations carried out in 'real' settings, and hence dealing with the 'messiness' of this richer environment. They typically involve real users, queries, information needs, relevance judgements etc., and may involve issues such as cost, timeliness, etc., which it would be difficult to include in a laboratory style setting. Measures will generally be a mix of quantitative and qualitative. The question 'why' can be asked of the results of an operational evaluation in much more complex ways than is possible in the laboratory setting.

Audits and maps

Information audits are a form of 'whole service' evaluation, aiming to assess the resources available. At their simplest, they simply enumerate systems, services and resources. More complex audits will assess the cost, and sometimes attempt to assess the value, of the items identified.

Information mappings are a form of audit focusing on how information flows within an organisation, or a part of it. They may use various graphical means to display this.

User studies

These evaluate a system or service by focusing on the behaviour and opinions of its users, applying a variety of survey methods, both quantitative and qualitative. Inevitably they only give a partial picture, since they cannot include those who could use the service, but do not.

Impact

Impact studies are a kind of 'holy grail' of evaluation, since they aim to show the actual impacts made on the users of information services by the information provided; one important way of assessing value. As with anything attempting to show the 'real value' of information, they are difficult to carry out, and relatively few convincing examples have been described.

We may say in summary that there is increasing recognition that evaluation must address not merely costs and activities, but must demonstrate the value of services to their users in terms of value for money, time saved, better decision making, etc. This will require a variety of user-focused evaluation methods, including interviews, questionnaires, observation, examination of records and logs, critical incident studies, and means for assessing economic benefits.

Assessing monetary value

In an ideal world, each library service would like to justify its activities by demonstrating its 'true worth' to its patrons, by showing its value to them in monetary terms. This could then be compared with the known costs of the service, to produce a true cost-benefit ratio.

In practice, however, such a task is very difficult. Although the costs of the service may be determined accurately, its monetary benefits are notoriously difficult to quantify. Ultimately this is a reflection of the difficulty of putting a monetary value on information itself, since its value can only be determined when, and if, the consequences of the availability and use of information are known, and can be compared with the situation where the information was not available (Yates-Mercer and Bawden 2002).

As a surrogate for this full understanding, a variety of methods under the general heading of 'contingent valuation' may be used. These have been derived as a means of assessing the value of non-market (freely provided) goods and services, by assessing their users' 'willingness to pay', and have been applied to library services in a number of studies; see Chung (2008) for a review and critique. We may quote three examples to give a feeling for this method.

Morris, Sumsion and Hawkins (2002) attempted to estimate the value of the borrowing of books from British public libraries, by asking library patrons to estimate the value of the benefit which they had obtained from books borrowed, and how much they would have been willing to pay for this. The typical value was 8% of the purchase price of the books.

The British Library (BL) used a variation of contingent valuation, as being one of the few such methods accepted by the UK finance ministry, to assess the value of its national library services; both the direct benefits to users and the indirect benefits to the nation. This involved a variety of user surveys, including questions on what the users would have done if the BL services were not available, and what the consequent costs would have been, and also what amount of money users would

accept to be happy if the BL did not exist. The study results suggested that the BL generates a value to the nation about 4 times its costs (British Library 2004).

Aabo (2005) investigated the perceived value of the Norwegian public library service in a similar manner, presenting library with a scenario in which the municipality was considering closing a library, and asking user either what they would be willing to pay to keep the library open, or alternatively what they willing to accept as compensation for its closure. By combining the results, it could be shown that the amount users would be willing to pay is roughly equivalent to current library costs per head of population, while the cost-benefit ration was about 1:4 (very similar to that found by the BL).

Despite their evident shortcoming and oversimplifications, contingent valuation methods seem the most acceptable means at present of evaluating cost-benefit of library services. It is likely that they will be further developed and used in the future.

Impact of healthcare information services

In healthcare information settings, where library/information services are provided to doctors, nurses and others involved in the diagnosis, treatment and care of patients, there has been a particular interest in attempting to show the 'impact' of these services, on factors such as improved patient outcome (increased survival, quicker recovery time, shorter stays in hospital), more reliable diagnosis, identification of best treatments, saving of time of medical staff, etc. Numerous studies have examined this issue: for overviews, see Robinson and Bawden (2007a), Marshall, J.G. (2007), Weightman and Williamson (2005), and Bryant and Gray (2006). However, it has proved difficult to show a conclusive relation between library/information provision and these desirable outcomes. However, these studies suggest that while this direct impact is difficult to establish without doubt, there is an increasing body of evidence that information provided by a library service can influence patient care outcomes and that assessment of impact at a local level is possible by careful choice of evaluation methods.

One such study, carried out by the two of authors of this paper, illustrated some of the possibilities, but also the problems, of such an approach. This was an evaluation, carried out for London Health Libraries, of the impact of outreach services to primary

care and mental health workers in thirteen different settings (Robinson and Bawden 2007b). These are services by which the librarian actively promotes their services to medical staff working in the community, and in small health centres, rather than in large hospitals, with well-used library services.

The methods used were: analysis of documents; analysis of any evaluation already performed by or for the service; interviews with outreach librarians; questionnaire survey of a representative sample of users. The services evaluated were very diverse, in terms of setting, structure, functions and activities, and extent and nature of self-evaluation and reporting. The study was intended to be qualitative from the outset, due to the diversity of the services being analysed, in terms of setting, structure, functions and activities, self-evaluation and reporting. Materials provided were not always directly comparable, because of the lack of a consistent reporting template. Emphasis was placed on trying to identify critical incidents, where it could be shown unambiguously that the outreach services made a difference to practice.

13 library/information services participated: 2 by examination of documents only; 3 with document examination and interviews; 8 with document examination, interviews and user survey. It was initially intended that non-users would also be surveyed, as this is an important group to understand. However, this idea was abandoned, as there was no way to identify non-users.

The user survey was distributed by the service provider – in the way that they thought best – to a representative sample of users. The survey was anonymous, but users were invited to give their names in case of follow-up questions; the majority did so. 189 questionnaires were distributed, and 66 (35%) were returned. 43 (65%) were from primary care and 23 (35%) were from mental health, with a good distribution of user speciality, and roles as follows:

Doctor	19 (29%)
Nurse	25 (38%)
Allied profession	12 (18%)
Other	10 (15%)

A consistent picture emerged from the three aspects of evaluation: examination of documentation, interviews and user surveys. The services were well received, and seem have an identifiable impact on some aspects of medical practice.

In summary, areas of impact, roughly in order of significance across the services were:

- greater awareness of information resources among the groups served, and greater readiness to use them, as a result of promotion and advice
- improved information skills, and confidence in choosing and using information resources, among the groups served, as a result of training received
- users are kept up-to-date with resources and techniques
- staff feel more confident and more supported in their practice, and in their education and training, with benefits for job satisfaction and career development
- a more thoughtful and evidence-based approach to practice is encouraged
- changed practice in patient care, or in support given to patients, as a result of advice and information provided by the services
- better decisions being made by staff at all levels and in all specialities (and also by patients about their own treatment, for the services which deal with them)

It has proved difficult to identify specific 'critical incidents'; examples where it could be shown unambiguously that the outreach services 'made a difference' to practice. Examples of specific impacts credited to the outreach services included:

- a doctor asking for information identified by the service to be sent directly to a patient.
- A speech therapist using a outreach service to find literature to plan specific support measures for a child with speech difficulties, and sharing the literature with the parents
- *'I have personally used information from the literature to guide some critical clinical decisions regarding medication decisions in some of my patients'*
(psychiatrist)

Impact is more usually described - both by service providers and by their users - in more general terms, most commonly expressed as:

- confidence gained in information handling, and in using computer systems, which may help career development, and job satisfaction, as staff feel more supported

'I feel a lot more confident' (community psychiatric nurse)

"essentially, I can be confident that I'm doing the best that I can for my caseload ... if clients aren't progressing, then I can assure parents and carers that we are doing the "right" thing' (speech and language therapist)

- time saved

'time saving - saved time for patient and me' (doctor)

- better understanding of evidence, and where to find it

'helps decisions to be made on a more systematic approach to the literature .. has helped to establish an evidence-based approach into the culture of my working style [including] my own practice and supervision of junior staff' (psychiatrist)

- adherence to good practice:

'helps identify best practice, and gives evidence for management of patients in most effective way' (doctor)

'reinforced the work I do, and how I do it' [women's health counsellor]

'it should stop me becoming limited or entrenched in the way I work with my clients' (psychiatric nurse)

Many detailed points were identified about the way such information services should be structured and operated, and the detailed and local factors which lead to success. The main conclusions of the evaluation overall were that this kind of library service clearly have 'indirect' impacts on better patient care, but that correlation with 'direct' impact requires more detailed follow-up of users. This represents the current status of this kind of impact study: it clearly has promise, and is well worth trying, but it is not easy to identify the most valuable results.

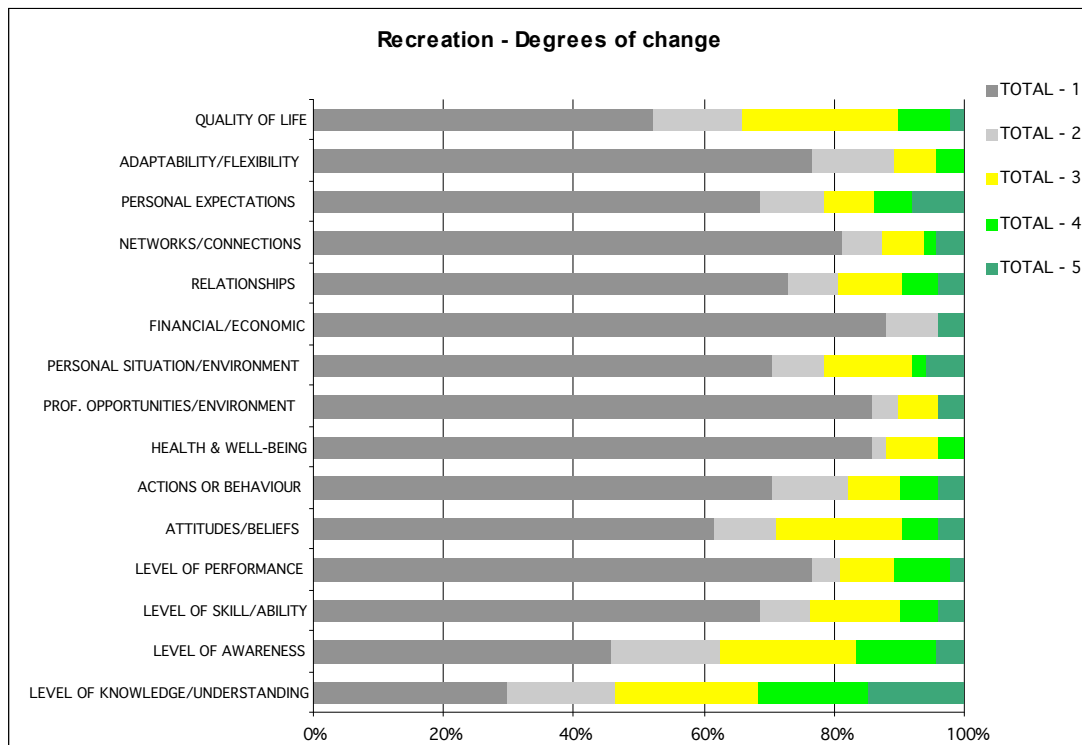
Value of library services

Contingent valuation methods, discussed previously, attempt to provide a measure of the economic value of library services. Other approaches aim to give an understanding of the detail of how and why the services provide value.

One well-known example is the 'Value Project (Urquhart and Hepworth 1995), a study that explored an approach to assessing the effectiveness of UK healthcare libraries as information providers and their effect on clinical decision-making and patient care. The study resulted in the development of a toolkit aimed at health sector information professionals to enable them to demonstrate the contribution their services were making. There are some similarities with the 'impact' studies noted above, but the Value Toolkit aimed at identifying more long-term and intangible benefits.

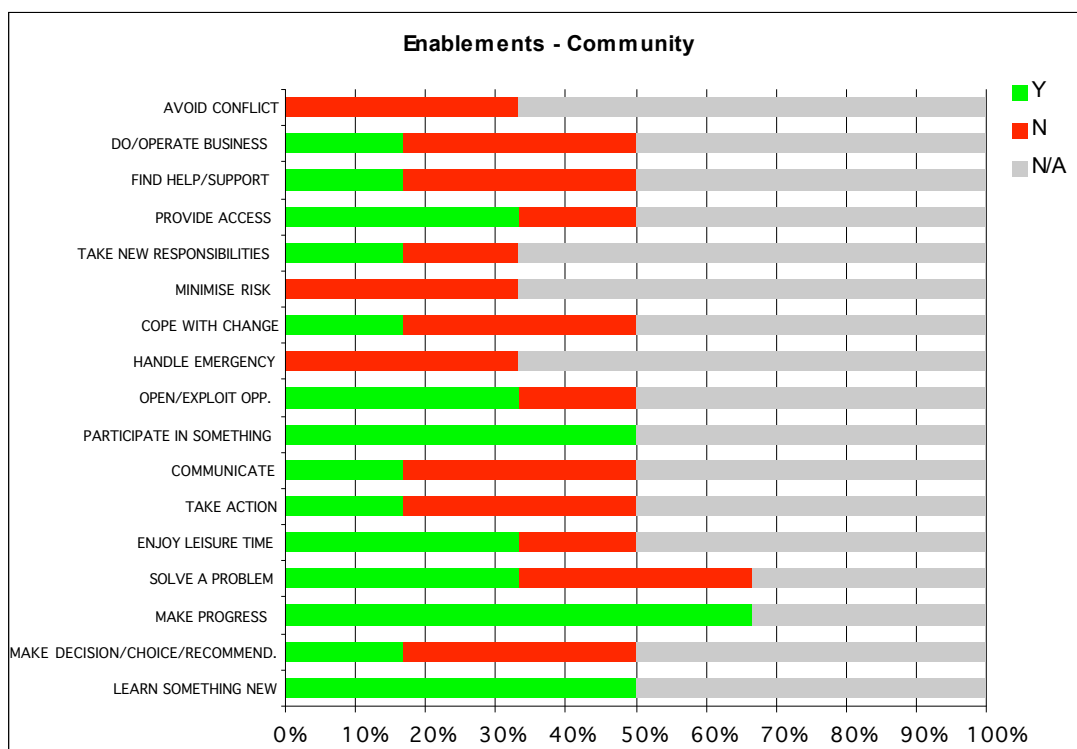
Although devised for the medical library environment, this toolkit has been adapted for use in other kinds of library. The authors of this paper, have modified it, and applied it to assessing the value of the use of material in the City of London public library service for answering specific information requests [an article based on this work is in preparation].

Questionnaires and telephone interviews were used to collect information from just over 100 users making specific requests in lending and reference libraries. These requests were categorized as recreational, educational, career-related, professional, personal or community-related. The questionnaires and interviews addressed issues of whether the information obtained was appropriate, to what extent it met the need, and how it fitted the current knowledge of the users, what they would now do with the information, how it would change their situation, and what might be the 'emotional' effects (confidence, motivation, inspiration, insight into something new etc.). The following data tables and associated quotations give a 'flavour' of the kind of rich and detailed results obtained:



Degrees of change rated 1 to 5 for recreation category

“..the writer deals with things about about the international movement of people and activities. I think it’s a bit futuristic in some of its sociological outlooks, but I’m not sure that there’s actually much I can apply out of it other than to be a more rounded and knowledgeable person ... I think there’s a touch of confirmation of one’s own values but also helps put one’s own situation in context”



Outcomes for community category

“We were able to confirm what we knew and it gave us a lead to other possible sources .. our plans are to assemble what we can, as much material as we can and then distil it into an interesting and accessible narrative ... it did help us fairly significantly to go forward with the project, I can’t put that in percentage terms at all, but it was very helpful in that sense” [local historian]

The results of the study, admittedly small scale, demonstrated that the libraries involved have made a positive impact for the users that took part, and provided quantitative evidence that demonstrates where the libraries are making an impact.

Particular themes were:

- Learning – the study found strong positive impacts on learning in a wide variety of contexts and across all categories of use. It has been demonstrated that the libraries involved enable the users involved in this study to learn in both intended and indirect ways and that user recognise this impact.
- Supporting leisure – recreation was the most common reason for using the libraries and therefore this might seem inevitable, however many use self-directed educational activities as leisure pursuits both during their working lives and beyond. Through this the study has found that they get stimulation and to a lesser degree maintain their health, a factor that was more evident in

the interviews. The libraries are playing an important role for these users in supporting these activities in ways that encourage and motivate individuals to further their interests and lead to involvement in other things.

- Supporting business and professional activity – although this purpose accounted for only about 20% of instances captured in the study, the results in this category showed some of the most dramatic results, particularly amongst the degrees of change. These impacts were not just as a result of learning to support professional activity but also in the practical application of the information used, such as taking action and decision-making.
- Personal life and development – whilst the study did not capture a large number of instances the results showed strong positive results and that the libraries were playing an important role in supporting personal development through providing information. In addition the responses for this group showed high levels of information-based activity that was in common with professional and business use.

These results show that this approach, adapted from a toolkit for analysis of medical library effectiveness, has potential for conducting self-assessment analyses in public libraries. In addition, isolating specific instances of use appears to have addressed the difficulty in separating the impact of libraries from other contributing factors.

Another adaptation of the healthcare Value toolkit was used in a study of the public library service in the county of Devon, UK (Devon County Council 2006). Building on a general survey of public library use, this examined what users felt they had learnt from books which they had borrowed, using a standard taxonomy of learning outcomes to categorise questionnaire responses. This is another example of how this kind of methodology can be used to examine specific aspects of the value of library services.

Conclusions

Assessing the true value and impact of library services is still a difficult problem. The examples given in this paper show the 'best practice' approaches being developed at present. These focus on the tangible benefits perceived by users, expressed either economically, as an expression of the perceived financial benefits of the service, or in qualitative terms, as specific instances of benefit, or as a more detailed understanding of the nature of the benefits.

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