CHAPTER 4

MEASUREMENT AND EVALUATION OF LIBRARY SERVICES: CONCEPTS AND METHODS

Introduction

Evaluation of Library and Information Services

Measurement and Evaluation: Historical Perspective

Need and Purpose of Evaluation

Concepts in Library Evaluation

Levels of Evaluation

Criteria for Evaluation

Factors Affecting the Use of Systems of Evaluation

Measuring the Library and Information Services

Methods of Measurement and Evaluation
Standards and Guidelines for Measurement and Evaluation of Library Services

Need for Standards and Guidelines

Standards for University Libraries: Evaluation of Performance

Standardization Bodies and Committees

Standardization Efforts in India

Summing up

References
4.0 Introduction

During 1960s for most libraries funds from their parent bodies and other agencies and government was favourable and there was a stringent competition of money, the funding was easy to come. When librarians sought funds for building infrastructure for resources and maintain services, they received them without much difficulty. Library services grew in this relaxed climate.

In 1970s and 1980s the picture was changed into a new phase as libraries recorded an unprecedented increase in the costs of running facilities capable of coping with more advanced information needs. Since the early 1970s, costs have raised faster than the income. With various agencies competing for even more limited funds, the governmental and business organizations that fund today’s libraries are increasingly concerned with providing quality services while keeping costs down. These organizations have developed various techniques to aid measurement, evaluation, planning, and decision-making and expect the departments they fund to use these techniques to identify what is being done, why it is being done, and how much is being done. No longer can librarians simply ask for resources and expect to get them. Instead, they must indicate, in some meaningful and measurable way, the results of their services. In effect, they have to show that their programs are appropriate for the intended users and are achieving their objectives in an effective and efficient manner. The pressing need for data collection of this type was illustrated in an Association of Research Libraries (ARL) and Association of College and Research Libraries (ACRL) surveys, which showed that 90 percent of the respondents used quantitative data to support their budget requests.1
The mission of the university is to maintain the highest standards of excellence as a research led-institution, whose staff work at the frontiers of academic enquiry and educate students in a research environment. The university library works to realize this vision by providing access to the global base of knowledge and information in partnership with the academic community and corporate information and computing services. The library will continue to be a significant force to reckon with in the support and development of high quality research and learning throughout the university; it will also provide professional leadership through a period of continuing rapid change in the academic information environment. The principle objectives of the library are:

1. to select, acquire, conserve, preserve and make available a wide range of printed, non-printed, and electronic materials relevant to the academic aims of the university
2. to facilitate and promote access to the rapidly expanding global collection of electronic sources of primary and secondary information
3. to deliver documents rapidly to its users
4. to collaborate with other libraries to maximize access to the knowledge base
5. to train researchers and students in transferable information seeking skills
6. to manage its resources effectively, and activity to exploit and promote their use
7. to retain and recruit high quality staff and, through training and development, equip them to meet changing service needs
8. to provide and develop space of a high standard for collection, user facilities and library staff, to maintain a comfortable and secure environment conducive to study within its premises, and to extend longer opening hours
9. to evaluate developments in library and information service delivery, and adopt those benefits to the university library.
Today university libraries all over the world recognize the need for effective management tools. This interest in management—in some countries has become almost a routine while in others it is just beginning—has been brought out by changes that strongly affect the organizational structure of libraries.

4.1 Evaluation of Library and Information Services

4.1.1 Measurement and Evaluation: Historical Perspective

Measurement and evaluation have historically been used by library and information services in two ways. From the great library at Alexandria until the present day, libraries have judged (themselves) each other in terms of their collections and their curators. The pride taken in the early years of this century in the size and quality of the collection, often focused on the number of rare and valuable items it contained, and the distinction of the staff as scholars and luminaries in their own right, has dominated much library history. This view was challenged by the documentalists of the 1930s and 1940s who applied the mathematics of stochastic processes to the circulation of books and information in library systems. They began shifting the focus from the collection to the processes going on within the collection and the interaction between the collection and its users. The science of bibliometrics and the understanding it brought to the forefront as part of the cycle of the creation, organization and dissemination of knowledge changed the concept of the library from a self-contained entity to a dynamic system in constant interaction with its environment.

Pragmatic collection evaluation in American libraries may be traced back to Jewett's description of the results of a study comparing the citation in several lists of notable books with the holdings of America's major libraries to substantiate the
Smithsonian library budget and to point out the inadequacy of the nation's library resources compared with those of many European countries. Jewett pointed out that most of the surveys—on the progress of the disciplines such as chemistry or ethnology, or lists of references in standard histories of Chemistry or International Law—could have not been written in the United States. Jewett research was remarkable not only for the sophistication of his evaluations, but also for his scholarly orientation. He opined, "We wish books for use and not for the gratification of mere curiosity."³

For nearly a century after Jewett measurement and evaluation took the shape of narrative descriptions of high points of the collection, the form of a recitation of the holdings of significant editions of classic, medieval, renaissance, or "modern" authors. During 1930s and 1940s, students of collection evaluation rendered to concentrate on methodologies intended to demonstrate the incapacity of library collections to serve the ends of study, principally the inadequacies of the United States library collections to support the study of foreign areas, languages, and peoples. This pattern of study was the reflection of a growing preoccupation with our nation's increasing position as a world leader or power, and the studies sought to reveal the inability of our collections to support that national role.

The documentalists of the 1930's and 1940's, applied the mathematics of stochastic processes to the circulation of books and information in the library systems. They began shifting the focus from the collection to the process going on within the collection and the interaction between the collection and its users.

In the postwar decades i.e., in 1950s and 1960s, measurement and evaluation studies increasingly concentrated on the holdings of individual libraries in certain subject area studies or disciplines for which were supposed to have the weakness of
one kind or another. These studies, tended to be primarily qualitative, emphasized the utility of collections to certain practical curricular ends, and often-combined elements to seek to demonstrate the inadequacy not only of existing collections, but also of the funds to support them.

Carnovsky expressed the view that an evaluation of the library services is an extremely complex phenomenon. Standards for the public library were presented in 1943 and were reconsidered in 1956. He had given attention to book collections, personnel, finance and library use, certain standards have been suggested for public libraries, based on the population served. American Library Association (ALA) suggested a minimum size of 6,000 volumes for public library in 1943. While evaluating the book collection in an academic library he suggested that library should be evaluated by the use of a checklist. Evaluation of the library personnel should be done by the quality of staff. Apart from the direct consideration of library personnel, library surveys have laid a considerable stress on certain matters of personnel administration. He had raised the major problem confronting the person conducting the survey - determining what qualities are necessary in a good librarian.

During the 1960s, the direction of measurement and evaluation studies began to change. On the one hand the more traditional methodologies continued to be used, on the other there was a growing attention paid to the search for scientific methodologies. A significant contribution to this change was the growing disciplinary self-consciousness of librarianship itself which like the social sciences sought to emulate, engaged in many studies seeking to demonstrate that the art of librarianship was in fact a science, subject to discoverable and immutable laws of information and
measurement which, once found would finally legitimize librarianship as a profession comparable to medicine and law.\textsuperscript{5-6}

As this understanding developed, and as the library became a more sophisticated operation, standing apart from the community of scholars or readers, whom it served, it became recognized as a social institution rather than a collection of materials. Principles of management, and principles of evaluation developing in the management literature, were now perceived to be applicable to libraries. Evaluation and measurement in library and information services have since kept pace with the type of methodologies used in the profit, and non profit sectors - Strategic Planning, Systems Analysis, Management Information Systems(MIS), TQM, ISO9000, ISO 9002 and its off-shoots, and the Baldridge Award.\textsuperscript{7}

4.1.11 Landmarks of the Past

In order to develop such a framework one need to go back to some of the landmarks of the past 30 years. Thirty years of an extensive literature has been briefly reviewed in Chapter 3. Here are some notable pieces of work, glimmerings of real knowledge in the research literature, in the form of monographs, conference proceedings, handbooks and manuals -- a massif with some named peaks -- research, methods, and insights, which have added to the debate, changed its direction, made some significant impact on thinking about the issue. This is not by any means a definite list even of the acknowledged seminal papers or 'landmarks'. It is used simply to point out some trends. \textit{Kantor} and \textit{Orr},\textsuperscript{9} are the two key figures who made a significant conceptual breakthrough. And some scholars are briefly mentioned who are far more prolific than this list suggests especially major figures such as \textit{Backland et.al.}\textsuperscript{10} The things mentioned in the list are: a progression from the
early documentalists, using statistical methods to analyze patterns of use in library collections, developing concepts of measurement, early application of the systems approach, identification of need for objective measures, linkage of planning (goals and objectives) with measurement and evaluation, the concept of goodness and whether statistics can measure goodness or not, emergence of effectiveness, MIS and DSS, and finally the introduction of concepts of quality, ISO9000, the distinction between satisfaction and service quality, and the definition of the attributes of service quality.

During this period (the past 25-30 years) a lot about evaluation and measurement has been discussed. A distinction between inputs and outputs should be made to understand the difference between measuring process and evaluation products analyses. They are fuzzy, contradictory and often un-quantifiable. Cullen Rowena expressed thus;

**Figure: 2 Evaluation Feedback**

<table>
<thead>
<tr>
<th>Input</th>
<th>Processes</th>
<th>Outputs</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resources</td>
<td>Evaluation</td>
<td>Customers</td>
<td>??</td>
</tr>
<tr>
<td>Human/financial</td>
<td>Measures</td>
<td>Service Quality</td>
<td>Satisfaction</td>
</tr>
</tbody>
</table>

**Cullen's three aspects of Evaluation**

### 4.1.2 Evaluation: Definition and Nature

Generally the term evaluation means, "assessing the value" of some activity or object. The Oxford English Dictionary defines evaluation as "the action of appraising or valuing a calculation, or a statement of value! The action of determining
the value of (a mathematical expression, a physical quantity etc.) or of estimating the
force of probabilities, evidences etc.”

The Webster’s Dictionary of the English language\textsuperscript{13} says “Evaluation means to
examine and judge concerning the worth, quality, significance, amount, degree or
condition of appraise rate”. Evaluation is to gather data, which is useful in problem
solving, or decision making process. Lancaster\textsuperscript{14} has rightly stated that the operation
of the library can be considered as essentially a marriage between the information
resources and the personnel.

4.1.3 Need and Purpose of Evaluation

4.1.3.1 Need for Evaluation

It is a fact that an evaluation is an essential element in the successful
management of any organisation. The profit making organization or industry every
year, evaluates their services and quality of products, their sales, as compared to
others and takes an appropriate decision to improve the quality of a product or a
service. In a service oriented organization(library) it will be their user effectiveness.
Lancaster\textsuperscript{15} is of the opinion that Ranganathan’s fifth law provides the major
justification for evaluative activities. Hence, library must be evaluated not only in
terms of “how it is doing” but also in terms of “is it doing what is expected to be
done.”

The evaluation process is not an end in itself. While evaluating any kind of
service of the library an evaluator must start with definite objectives in his mind and
the study should be so designed that it should be in a position to answer certain
specific questions and gather data, which will allow improving the quality of services
or make an improvement in the existing services.

135
4.1.32 Purpose of Evaluation

There are many reasons why the librarians wish to conduct an evaluation of the services that a library is providing to its users. One of the simple reason is to see the extent or level of performance of the services that are now operating, and how these services are effective to the users. Another reason may be measure the cost effectiveness of the services. If changes are to be made frequently, the effect of the service provided can be measured. In addition to this, it may also to compare the existing library services with other library services, which they are providing to their users effectively, so that the lacunae can be found out in the existing services and their services can be improved in a better way. Further, the other reason may be to identify possible sources of failure or inefficiency in the service with a view to improve the performance of the service in future. The main purpose of evaluating the services of the library is to take into consideration the benefits of the user and to raise the standards of existing services. Hence it is an unimportant exercise, unless conducted with specific objectives in mind, to identify the services and suggest some measures to improve its performance.16

If an evaluation of any kind of system or service is undertaken, it gives answers to the following questions.

1. How well is the system or service functioning?
2. Can the system or service be improved?
3. How best it be improved?

The first question relates to the present performance level of the system which may be answered by macro-evaluation. The other two questions can answer in detail the level of evaluation namely micro-evaluation. It involves analytical procedures where the major failure can be identified.
4.1.4 Concepts in Library Evaluation

4.1.41 Library input

The level of library input in terms of facilities, organized services, buildings and other resources is taken as a measure of performance. The input data is used as the principal means of comparing the services with those rendered by other libraries and seeking more money. The assumption is that the effectiveness of a library is directly proportional to the resources utilized. Library standards and statistics are taken to indicate the effectiveness and efficiency of the library.

4.1.42 The Relationship Between the Pursuit of Organizational Goals and the Required Tasks of Individual

This approach assumes that an efficient use the personnel resources of a library results in maximizing library performance. Motivational forces, managerial style and other behavioural approaches are considered to maximize or improve the efficiency of staff.

4.1.43 The Interaction of Library with its Users

The sum of all encounters the user has with the library, including what is and what is not done for the user, is taken as effectiveness of a library (user studies).

4.1.44 Impact on Society as a Whole and its Relation to the Outcome of Library Services

Successful interaction between the library and its environment indicates the measure of effectiveness.17

4.1.5 Levels of Evaluation

Lancaster has prescribed three possible levels of library evaluation. These are the measurement of effectiveness, cost-effectiveness and cost-benefit analysis. Similarly Vickery and Vickery18 have provided a useful framework for assessing
performance in reaching objectives. These include the effectiveness of a system, the economic efficiency of a system and the value of a system. By effectiveness, they mean the degree to which it minimizes costs in achieving an objective. According to Viveckery, value is the degree to which a system contributes to user needs, and where it is expressed in monetary terms and compared with cost, it becomes a cost-benefit analysis.

A look at the latter’s framework shows that it is not different from what Lancaster has prescribed, and therefore they fit well into Lancaster’s effectiveness, cost-effectiveness and cost-benefit analysis, respectively.

4.1.51 Effectiveness

According to Chambers Twentieth Century Dictionary, an effective system is the one “having power to effect; successful in producing a result or effect”. Mathematically speaking it is a desired effect. To be more explicit “effectiveness must be measured in terms of how well a service satisfies the demands placed upon it by its users,” says Lancaster.19 Saracevic et.al.20 considers it to be how well a library does what is intended. Ralli21 on the other hand argues that effectiveness essentially measures how we are going to and to what extent we are meeting out goals and objectives.

Effectiveness relates to outputs and the overall criterion of effectiveness is the proportion of user demands that are satisfied. It can be measured in terms of number of successes and failures in meeting the demands of the users posed to a system. According to Lancaster such a measurement is subjective when done by gathering opinions via questionnaires or interviews and objective when the measurement of success is in quantitative terms.
4.1.52 Cost-Effectiveness

It measures how efficiently the system satisfies its objectives in terms of cost and how efficiently it meets the needs of its users. In other words, it implies the relationship between the cost of providing service and the level of effectiveness of that service. If a journal costing Rs.5,000/- annually is used 500 times during a year, the cost per use will be Rs.10/- only. If the same journal is used only 100 times during a year, then the cost per use will come to Rs.50/-. In the former case the journal would be said to be more cost-effective than in the latter case. A cost-effectiveness study looks at return on investment - the return on an investment of a library (in material, personnel and facilities). Which can be measured in service to users. Cost effectiveness can be increased by either reducing the costs or keeping the cost constant and increasing use.

4.1.53 Cost-Benefit Analysis

It refers to the relationship between the cost of some activity and the benefits derived from it. To express benefit derived by users, after using the service of a library, especially in terms of money is not only extremely difficult, but it is beyond the purview of the libraries or information centres. The effectiveness of a library service depends on the supply of the desired material with minimum loss of time. Mooers concedes that there is a considerable confusion surrounding various forms of measurement and evaluation, particularly the terminology used to describe them. According to him, there are three levels at which one can evaluate a library. These are the measurement of efficiency, performance and effectiveness.

It is clear from the foregoing discussion that the user is at the centre of all these measures of evaluation. Be it cost-effective evaluation or cost-benefit
evaluation, evaluation of effectiveness, efficiency or performance – all end up finding ways of better serving the library users.

4.1.6 Criteria for Evaluation

From what has been reviewed so far, it may be summarized that the performance of a library is evaluated primarily in terms of effectiveness and efficiency. Evaluation is also thought of, as weighing the goodness of results of a library service against the resources required.

As a summary, therefore, the criteria for library evaluation may be categorized as follows: 24

4.1.61 Effectiveness

This is a measure of how well the service satisfies the demand placed upon it by its users. It can be subjective (based on opinions of users) or objective (success measure in quantitative terms) or a combination of the two.

4.1.62 Efficiency

This is a measure of cost minimization in attaining objectives which is determined as a ratio of output to input.

4.1.63 Cost

This is the monetary value of the resources expended to provide a service or a product.

4.1.64 Cost-Effectiveness

This is the gain accruing to the individual or the organization or the society at large from the use of the library.

4.1.65 Time Saved

This refers to the time that the user of a library service saves.
4.1.66 Satisfaction

User satisfaction and dissatisfaction with library service are related to the attitude and behaviour of the user towards the library services and collection.

4.1.67 Cost-Benefit Evaluation

This involves determining how far the value/worth of a library service is justified in terms of the cost.

4.1.7 Factors Affecting the Use of Systems of Evaluation

Do libraries make use of past research? Do evaluation and measurement improve library effectiveness, i.e., by examining the factors that might improve or hinder the adoption of evaluation and measurement in library and information service management? These questions immediately arise. In all the literature that has been discussed in this study, there have been considerable insights into measurement and its value to libraries. Why has there not been greater uptake of this scholarship and research? Why is there so little agreement amongst the profession at large of the best approach to take to this problem, when library services in so many other ways, are becoming more and more standardized?

There have, in fact, been some uptakes of research-based management methodology within our profession in the past. From the first ALA manual (DeProspo, 1973) to the last (Van House, 1990) the methodologies had been well based on previous investigation and research, even if this was not entirely empirically based. Those libraries that have employed these or related methodologies report detectable increases in a range of output areas and some satisfaction with evaluation as an activity. But total commitment in the profession to the task seems to be still falling far short what we might expect after such a lengthy gestation. In most
institutions, it seems, measurement is still in to feeding into the planning process; many libraries have a little understanding of the measurement and evaluation process.

4.1.8. The Evaluation Process

A key point is that the measurement results are compared to the goals of the library in reaching evaluation judgements. This study presents a set of output measures, described in figure 3, to be used to measure university library performance on a set of common criteria, plus instructions for data collection. However, the use of these measures to evaluate library performance requires that they be considered in the context of the goals of library and its circumstances.

Figure : 3 The Evaluation Process

![Evaluation Process Diagram]

Source: Adapted from Suchman, (1967)²⁷

The first step is the definition of effectiveness, the identification of the overall basis of evaluation. Then goals are established for this particular organization. These goals define what 'would be', the standards against which performance is to be judged.
Based on the definition of effectiveness and goals, criteria which are broad indicators of effectiveness; these criteria are made concrete in measure. For example, one criterion of effectiveness may be materials used. This is made concrete in the measures such as circulation, in-library materials use, and total materials use. Ideally, at this point operations and services are designed to meet the library are collected for each measure. The data are compared to the goals to assess library performance. This is the point at which ‘what is meets, what should be’.

Finally, the process cycles back and the evaluators reconsider the appropriateness of their definition of effectiveness, criteria, and measures, and their choices of operations and services.\textsuperscript{28}

4.2 Measuring the Effectiveness of Library Services

4.2.1 Measurement: Definition and Nature

Measurement is a tool in the evaluation process. Evaluation consists of comparing ‘what is’ with ‘what ought to be’. Ultimately, evaluation is an exercise of judgement. Measurement is the collection and analysis of objective data describing library performance on which evaluation judgements are based. Measurement results are not in themselves ‘good’ or ‘bad’; they simply describe what is. What these data means depends on ‘what ought to be’, the expectations or goals that the evaluator holds for the library being evaluated.\textsuperscript{29}

4.2.2 What is to be Measured?

This is a fundamental problem akin to all processes of library evaluation. But the problem becomes exacerbated in the measurement of effectiveness. The reason is that the measurement of effectiveness is a complex issue, particularly for social systems of which the library is one. There is a great diversity of approaches, methods
and techniques that present a bewildering and confusing picture, all because 'as yet, there are no universally accepted measures, measuring units, or methods for the study of library effectiveness. In part, this is because there is little agreement as to what is to be measured. It is even doubtful if consensus would be reached about measures which have the most utility and internal validity.

According to Orr,\textsuperscript{30} quality and value are measurable both directly and indirectly: "measures of quality and value may be characterized as direct if they are based on these ultimate criteria, and they may be termed as indirect if some presumably related criterion is substituted as the basis for judgement. In fact, the ideal situation, as explained by Stecher,\textsuperscript{31} would be one in which measures are used for measuring these ultimate criteria. In practice, however, it has proved difficult if not impossible. Invariably, this implies that one would have to find things, processes, and phenomena, which are measurable, and where the measures derived would be valid indicators of effectiveness and benefits.

4.2.3 Measure for Measure

How can one determine the best way of evaluating the performance of university library? Which measures are relevant for us? Measure for measure, which measures will make libraries more effective and responsive and relevant to our client's needs?

As profession has been grappling with these questions for a quarter of a century, responses have focused on the semantic, the theoretical and the dogmatic. But in recent years they have focused mainly on the practical. Recent articles describe and explore new ways of evaluating services, new services to be evaluated, new issues to be considered. Terms like TQM, ISO9000, SERVQUAL and gap
reduction are thrown around. What do they all mean? How do they relate to one other? A few writers have questioned the fundamental value and relevance of the process of measurement itself.  

In fact, the question some one must ask is; are we really any closer to knowing whether measurement and evaluation lead to library effectiveness more than when the debate began 25-30 years ago? This approach is adopted in this thesis, and it is hoped that it will help libraries find an approach to measurement and evaluation which will in turn help librarians to manage library better.

4.2.4 The Measurement Process

It is an exception rather than a rule that libraries will apply systematically all measures described in a handbook of performance measurement. Rather, the library will be interested in obtaining better knowledge about one or several specific services or activities. The library becomes aware of the organizational necessity to improve special aspects of library services, because;

- Users complain about bad service, e.g. insufficient opening hours or unsatisfactory availability of resources.
- Members of staff make suggestions as to how a particular service may be improved.
- Traditional controlling mechanisms like library statistics, point to diminishing outputs in certain areas.
- The organizational structure is changed, e.g. by introducing new technologies, which alter established procedures.
- Other libraries lead the way by streamlining organizational procedures in certain fields.

The measurement process usually consists of three stages ie., preparation, realization and interpretation.
4.2.5 Measurement and Evaluation is a Political Activity

Measurement and evaluation are highly political activities, and they must be seen as such at the macro and the micro level. We must look to social and political expectations made of our institutions and ensure that they meet the needs and expectations of our significant client or stakeholder groups. We must use our planning and goal-setting activities in a meaningful way, incorporating appropriate measures, to demonstrate our response to this external environment, and our willingness to align our aspirations to broader corporate goals. But we must also look within and try to promote an organizational culture—which acknowledges the political nature of measurement and evaluation. This means using evaluation and measurement to indicate the alignment of the library or information services with broader organizational goals, demonstrating the integration of information services with the key activities of the organization, or the community support to the position of the library as the manager and service provider of the primary information of an organization.

4.2.6 The Multidimensional Nature of Evaluation and Measurement

The application of Cameron's\(^4\) four models to existing modes of measurement and values/focus purpose matrix has demonstrated that evaluation and measurement are fundamentally multidimensional in nature. A library or an information centre that wishes to really understand how it performs will examine both its environment and its constituencies. It also investigates the needs and expectations of its constituencies; examines its inputs and effectiveness in gaining resources; sets goals which will allocate resources to respond to its various constituencies; measures
efficiency and effectiveness in using resources; incorporates feedback into planning, and revises goals in dialogue with various constituencies identified.

4.3 Methods of Measurement and Evaluation

4.3.1 Quantitative Methods

4.3.1.1 Questionnaire Method

Survey work, in whatever form, is the most widely used method of evaluating library services and the questionnaire is widely viewed as the most attractive method of quantitative data collection. It can be applied to a whole range of issues from a simple overview survey of user satisfaction to a detailed investigation of the needs of small groups of users. However, the structure of the questionnaire and its method of administration will vary depending on the user group being addressed.

To its exponents, the quantitative, questionnaire-based approach has distinct advantages. The questionnaire can report on the views of many thousands of people and give a breadth of data not available to qualitative methods. Because it adopts a highly structured approach and because it uses statistical methods and produces numerical data, its outcomes are perceived to be 'scientific' and therefore objectively correct. If well designed, it gives clear-cut answers to the questions asked. As interested users can complete it without intervention, it appears to be neutral. It is good asking questions based on counts, viz., 'how often do you visit the library?.' A questionnaire offering a limited number of answer options such as YES/NO or tick box variety (closed questions) can be analyzed relatively easily and quickly.35
4.3.11.1 Some Issues

There are wide ranges of issues suitable for study:

(a) An overview user or a general satisfaction survey aims at producing a general picture of user satisfaction. It often identifies issues for further study but its main purpose is to effect service improvements.

(b) Materials availability survey tries to know whether the users find the books, journals or other sources they are looking for(usually) on a particular day.

(c) Different services satisfaction survey(Circulation, Reference, Electronic etc.) invites the user to evaluate the quality of the various services received. Again this is usually related to a particular academic year or otherwise to a limited time period.

(d) Benchmarking – a comparison of the performance of a library with that of many others. This presupposes the existence of a comparative database of edited data.36

4.3.11.2 Questionnaire Design

In general, questions in questionnaire should proceed from the general to the specific. General questions, which do not intimidate the respondent, will encourage progression to more specific ones. If questionnaires are broken up into components or ‘question modules’ within each module again progression should be from general to specific.

There are essentially two types of questions: Closed(or pre-coded) and Open (free response) questions. In closed question the respondent is offered a choice of answers where he is expected to tick or circle the most appropriate one. In open questions the respondent can answer spontaneously in his own words.37
4.3.12 Sampling

Sampling is done when it is not possible to survey an entire population. In this procedure the researcher collect inferential statistics which try to make statements about the parent population from the evidence of the sample.

The term sampling frame means a list of the entire population as defined by whatever factors are applied, such as gender or occupation. It may be a register of borrowers, university student and staff records. Sampling theory demands that probability should be allowed to operate fully and therefore samples should be chosen randomly. There are a number of methods of random sampling.

(1) Simple Random Sampling: each member of the(sampling frame) population has an equal chance of being chosen.

(2) Systematic Random Sampling: This also involves the use of a sampling frame. The starting point is selected at random and every number thereafter, fourth, tenth or whatever, depending on the size of the sample, is desired.

(3) Stratified Random Sampling: The sampling frame is divided by a criterion like library users by department or faculty and random sampling takes place within each band chosen.

It is not always possible for a library to carry out a structured survey and there are also non-random and therefore less reliable methods are widely used.

(a) Accidental Sampling: Here whoever is available is chosen.

(b) Quota Sampling: Here whoever is available is chosen on the basis of predetermined characteristics such as age, gender, social class and occupation and a certain number of people have to be surveyed in each category.
(c) Purposive Sampling: The survey population is chosen from prior knowledge, using intuition and judgement.

4.3.2 Qualitative Methods

On the whole qualitative methods are less used than quantitative methods. They figure less in the literature, especially standard textbooks; nevertheless, they are increasingly reported and are becoming better understood. Qualitative methods include such techniques as interviews, frequently conducted on a one-to-one basis; meetings, whether loosely structured or more tightly organized, like focus groups; suggestion boxes whether in manual or automated form (via an OPAC or Website); observational methods and the keeping of diaries. Some involve direct, fact-to-fact interaction and require special skills and training, others do not.

It is often said that qualitative methods are less labour-intensive and time-consuming than quantitative methods. There is some truth in this. However, planning and facilitating meetings require special skills which library staff may not possess and they may also face the (logistical) problems of getting an appropriate group of people into a suitable room on a certain day at a certain time. This should not be underestimated. It helps considerably to have a pre-existing organization, independent of the library, which acts as an organizational focus. The library at the University of Huddersfield has built up good relations with the students union which has 150 course representatives who can be called on for focus group work.\(^{38}\) Glasgow Caledonian University had, for a time, an organization called the partnership for quality initiative, which organized and facilitated meetings for several university departments, including the library. If no appropriate organization exists it might be necessary to employ an outside body as Brent Arts and libraries did when studying the needs of ethnic minorities within the borough.\(^{39}\)
4.3.21 Focus Groups

Of the various qualitative methods available the focus group is probably the one which has attracted most attention. They called focus groups because the discussions start broadly and gradually narrow down to the focus of the research. They are not rigidly constructed question and answer sessions. Focus groups are used in a variety of situations. In business and industry they are often used to test new product ideas or evaluate television commercials. In higher education they can be used to 'float' new ideas such as embarking on a major fund raising venture. Focus groups, typically, consist of 8 to 12 people, with a moderator or a facilitator who focuses the discussion on relevant topics in a non-directive manner. The role of the facilitator is crucial. He or she must encourage positive discussion without imposing control on the group.40

Focus groups have several advantages over other forms of research which have been usefully summarized by Young(1993);41

1. Participants use their own words to express their perceptions.
2. Facilitators ask questions to get clarified the comments.
3. The entire focus group process usually takes less time than a written survey.
4. Focus groups offer unexpected insights and more complete information.
5. Focus groups people tend to be less inhibited than in individual interviews.
6. One respondent's remarks often tend to stimulate others and there is a snowball effort as respondents comment on the views of others.
7. Focus group question design is flexible and can clear up confusing responses.
8. Focus groups are excellent ways to collect preliminary information.
9. Focus groups detect ideas which can be fed into questionnaire design.

Practitioners have had varied experiences with focus groups. It is sometimes claimed(e.g., Hart, 1995, p.280)42 that library staff should not be participants as this
can inhibit other participants such as PG students. However we have never found
students to have any inhibitions when criticizing the service of the library staff in their
presence. Hart (1995) has organized seven focus groups over an academic year and,
inter alia and makes the following points:

(a) The lunch period is a good time to hold them.
(b) Each group lasted half an hour to an hour.
(c) Misconceptions relating to all aspects of library organization were
widespread.
(d) Focus groups are good for identifying problems, which might not
otherwise have been considered.
(e) Focus groups are good for providing insights rather than answers.
(f) Focus groups are not particularly cheap, mainly in terms of staff time,
which can be 3-4 hours per session.

4.3.22 Suggestion Boxes

The suggestions box has been around for a long time and is now the subject of
renewed interest in the present evaluation climate. The traditional ‘suggestions box’
in fact takes several physical forms. It might be a book, in which users can write
suggestions, it might be a box, with an opening for inserting bits of paper on which
comments are written or it could be pre-printed card, which can be completed by the
user and analysed in a fairly structured way. About 10 academic libraries used this
method in mid 1990’s and Essex library is a public library example but there is
uncertainty about what they are for; a public relations exercise or part of a customer
care programme. Unless they are the latter they are largely a waste of time. The book
or box must be prominently displayed and adequately published. It must be
scrutinised regularly, preferably once a week and the issues rose identified. Two
questions must be considered;

(a) Will the author of the suggestion receive an answer?
(b) Will the suggestion be acted upon or at least considered?
If the answer to both these questions is ‘no’ there is no point in having a suggestions box, but to answer each question by letter could be a substantial clerical exercise.

Automated library systems have given a new lease of life to the suggestions box because some have question/answer facilities included in the OPAC/Computer. Typically these include the screen on to which users can input questions and these are then answered by the library staff. It is good if a specific member of staff has responsibility for this and ensures that all questions are answered promptly.

Generally speaking, the ‘suggestions box’, where manual or automated, should be used in conjunction with other methods. The coming of the World Wide Web (WWW) makes it possible to make suggestion services easily available over the Internet.

4.4.23 Diary Techniques

Although market and social researchers in library and information science use the diary method, its use seems to be largely confined to studying the activities of university undergraduates, mainly in respect of their study habits and use of library text books and other sources of information. It reflects many problems found in people orientated research. Completing a diary viewed as a tedious task. While it might be possible to draw up a random sample of those to be approached it is likely that those who agree to co-operate will be a small, self-selecting group.

An example of a diary technique research was carried out at the Centre for Research in Library and Information Management at the University of Central Lancashire as part of a wider study of library support for franchised courses in higher
Approximately 120 first year students were involved in the project, which aimed at documenting the actual experience of students in relation to the provision and availability of library services and resources.

The diaries were used to record materials consulted by students as they completed their assignments and also to note any difficulty they came across in obtaining or using materials. The analysis of the diary entries then provided the framework for the focus group discussion in that it allowed the researcher to compile a list of themes and performance issues to use with the group. The students were encouraged to refer back to their diaries during the group discussion so that they were able to draw from specific examples and to describe their actions in detail rather than to talk in general terms. In this case, then, the purpose of the diary project was two fold:

(a) To record data
(b) To facilitate focus group discussion.

The data of diary method was more useful when set in a wider context discussion.

4.3.24 Interviewing

Interviewing on a one-to-one basis is something that many librarians have done at one time or another. It is important to realize, however, that it is a structured activity and not just a chat. It can be seen as an extension of the meeting method but by speaking to only one person it is possible to probe in detail into the experiences and reactions of respondents. So it is a good method for exploring sensitive or confidential issues like library staff relations with users. Interviewing is a skilled activity and because it is about the interaction between two people, well-developed
social skills are essential. The interviewer must be good at getting people to talk. Conversations can be recorded in notes or using a tape recorder. The latter method allows the interviewer to concentrate on what the respondent is saying but the tapes have to be transcribed or, at least analyzed, which takes time.46

4.3.24.1 Types of Interview

(1) The Structured or Formal Interview: This is based on a pre-prepared list of questions which are not deviated from. This closely resembles the administration of a questionnaire, except one thing that the interviewer is present to explain and clarify questions.

(2) The Semi-Structured Interview: The interviewer works from a pre-prepared list of issues. The questions derived from the issues are likely to be open-ended to allow the respondent to express himself or herself.

(3) The Unstructured Interview: In this case only the general subject is predetermined and the interview is informal. This gives a considerable scope to the respondent to express his or her views and demands considerable skills on the part of interviewer who must be able to subject control digressions and tease out issues only partially examined by the respondent.47

4.3.25 Observation

Observing what people are actually doing is a technique used relatively a little in libraries but it has obvious attractions. It allows users to be observed in their natural setting and makes it possible to study people who are unwilling or unlikely to give accurate reports on their own activity. The non-curricular use of computers in university libraries is particularly a good example of this.

There are two types of observation: structured and unstructured.
4.3.25.1 Structured Observation

This is a predetermined activity where a form is used in which the observer records whether specific activities take place, when and how often. A well-designed data collection method will allow space to record unanticipated activity. However the form must be carefully designed at the outset to allow for most eventualities. Because this is essentially a statistical method which is usually considered to be a quantitative method.

4.3.25.2 Unstructured Observation

The observer records any behaviour or event which is relevant to the research and to the questions being studied. This is a much more open-ended approach and as is the case with most qualitative research, is especially useful in exploratory research or where a situation is incompletely understood.

Although in the library context an un-obstructive observation is probably the norm and the observer may participate in the activities that he or she is observing. To be a successful participant observer it is necessary to be approachable, friendly and receptive and to well dress and behave appropriately. Observation is a particularly suitable technique for observing the use of electronic services like e-mail, word processing and Internet surfing or electronic information databases because precise quantitative instruments for evaluating them are still in the process of formation.

Qualitative research, generally, is a major research method in its own right and is useful for probing the sensitive issues which questionnaires do not deal with so effectively. As the subject library and information science moves increasingly to the provision and use of electronic services so qualitative methods may become more
attractive because so many poorly understood issues are arising which cannot be addressed with the precision that quantitative methods require.

4.4 Standards and Guidelines for Measurement and Evaluation of Library Services

Standards are essential for the successful conduct of many activities, especially for manufacturing, maintenance, and engineering operations. But they have potential value virtually in all fields, and library science is no exception. Library standards differ markedly from industrial and engineering standards. A product is manufactured to satisfy the requirement of some standard (in terms of composition or mechanical or physical properties). When applied to libraries, however, standards refer to a set of guidelines or recommended practices developed by a group of experts which serve as a model for good library service. The work of these experts is generally sponsored and promoted by professional associations at the regional, state, national or international level.

Lynch (1982)\(^9\) writes that Standards for libraries are generally used for purposes of evaluation. Thus, the test of designing a set of standards becomes the task of designing an instrument of evaluation (p.46). This strongly suggests that standards have an important role to play in the evaluation of library services.

Certain questions have emerged in evaluations of library services which have established the essential components of library standards:

Are the collections of the library adequate? Are the materials of the library organized effectively? Is the staff large enough and sufficiently well trained to provide a high level of library service? Do the services of the library facilitate effective use of the library? Is the library building adequate to meet the service needs?
Are the finances of the library sufficient and adequate to support the operations of the library? Is the organization of the library and management suitable? Are there appropriate co-operative activities with other libraries? All of these existing standards for libraries derive from efforts to determine why one library is more effective than another and to decide what constitutes quality and achievement in the libraries. The development of standards grew out of the interest in evaluating library services. Standards and guidelines are developed by the professional community to assist in the evaluation of library programmes. The quality of a library program is judged or evaluated by experts who use standards, professionally developed-and their own expertise in making their determination.

4.4.1 Definition

ISO/IEC Guide 2: 1996 says that standards and guidelines are a document, approved by a recognized body or an association, that provides for common, and repeated use, rules, guidelines or procedure of activities. ISO defines a standard as "the result of a particular standardization effort, approved by recognized authority."

4.5.11 Standardization

Standardization means setting up, by the authority or a common consent, a quantity, a quality, a pattern, or a method as a unit of measurement or as an example of imitation.

4.4.2 Library Standards

A library standard is an objective, observable, and usually quantitative measure of library service, which usually drawn up by a body of practicing librarians, bibliographers and information scientists, as being with the achievement of the
average library or other services, and below which an individual should not be allowed to fall.53

A performance standard is a means of measuring the quantity of work produced by a person working at a normal place under normal conditions.54 Such a standard may originate as a performance(objective) specification which describe the results to be achieved rather than the means of accomplishment.55

4.4.3 Need for Standards and Guidelines

The object of using standards and guidelines in the field of library and information science is to achieve compatibility and interoperability among equipment, data, practice and procedures. The use of the proper standards makes library and information services more productive and effective. It avoids duplication of work and allows libraries to maintain quality in services and facilitate in sharing resources. The broader aspects of its need are listed below:

1. For enhancing service quality and reliability at the national and the international level.
2. For inter-library services.
3. For simplification and improvement of usability.
4. Increased distribution efficiency and easy maintenance.
5. Ensures optimum utilization of time.
6. Increase user satisfaction.

4.4.4 Library Standards: Historical Development

As described by Wallace,56 the first attempt by a national organization to create some standards was the authorization. In 1917, the American Library Association(ALA), took up the question of standardization of libraries and librarians. Public library standards in the US date back to 1933, when a two-page document was
called for a few essential minimum of service. By 1943, library standards had grown to a 92 pages statement of qualitative and quantitative measures.

The ALA did the first attempt in academic library standards in 1929, relating to budgets, classification and compensation plans for academic libraries. The college and reference section of ALA suggested minimum standards for college libraries in 1930. In 1934, as discussed by Brown,\textsuperscript{57} the North Central Association, a body of accreditation, stated that (a) an effective college must have a good library, and (b) the functions of the college library should be defined entirely by the educational program of the institution.

As described by Watkins, an Association of College and Research Libraries (ACRL) Committee on Standards met in 1967 to consider the feasibility of establishing standards for university libraries and had appointed by ACRL. A joint meeting of ACRL and ARL was held in Boston, which resulted in the recommendation for a joint committee of ACRL and ARL to develop university library standards. Its first product was university library statistics, a compilation of quantitative data from 50 leading universities. This document, as described by Downs and Heussaman,\textsuperscript{58} was intended to present data on existing practices from which standards could eventually be derived. The initial standards for university libraries were adopted by ACRL in 1979. ACRL's Adhoc University Library Standards Review Committee prepared this new revision.

\textbf{4.4.5 Standards for University Libraries: Evaluation of Performance}

(Approved by the ACRL Board at the 1989 MidWinter Meeting and the ALA Standard Committee at the 1989 Annual Conference).\textsuperscript{59}
As part of the process of reviewing the 1979 standards the committee received the advice from other members of the university library community. First, open hearings were held during the ALA Midwinter meeting in 1986; and second, a number of guests consulted the committee at the ALA Annual Conference in 1986 and the 1987 midwinter meeting. Comments were also received from representatives of regional accrediting associations and selected university administrators. As the decision was made to revise the existing standards, the committee continued to seek advice, culminating with an open hearing during the 1988 ALA annual conference.

Basic to this document (ACRL Standards for University Libraries) is the proposition that each university library system is unique and, therefore, it should determine its own criteria for measurement and evaluation. This process should be undertaken within the framework of the mission and goals of the university. Another assumption is that however, the library is placed within the governing structure of the university, its relationship should be such that adequate communication flows to it concerning the basic shifts in the mission of the university and changes in its programs, this document also assumes that the critical assessment resulting from the defined process will be transmitted appropriately throughout the university.

Library standards can be categorized into two broad types:

1. **Technical Standards** are uniform practices that libraries have adopted to accomplish certain work well. They include cataloging codes, rules for thesaurus construction, and standards for the representation of bibliographic data in machine-readable form. Library Trends (Rush, 1982)\(^6\) reviewed many of these standards, and Paul (1984)\(^6\) provided a simple overview of the process for creating technical standards.

2. **Performance Standards** are more general statements relating to the quality or the quantity of the services offered. They are usually written for libraries of a
particular type. One notable example is Standards for University Libraries: Evaluation of Performance (ACRL, 1989). 62

Technical standards have a little real relevance to evaluation; performance standards were envisioned as a way to help speed library development by providing librarians with suggested levels of services and collections against which to measure their own libraries. Librarians then could focus their efforts on areas that were found to be inadequate, using the standards to support requests for increased funding from the library’s governing body (Bloss; 63 Knightly, 1979; 64 McClure, 1980). 65

The Association of College and Research Libraries (ACRL) has adopted a number of specialized standards, including those for bibliographic instruction for ethical conduct of rare book, manuscript, and special collections librarians and for the handling of thefts; finances of the library administration, materials, accessibility, physical facilities, reference services etc.

Most standard documents, today, are both qualitative and quantitative. Qualitative standards are general statements of principle about what constitutes good library services.

(1) For example, the 1979 Guidelines for University Libraries in the US contain the following requirement: “A university library’s collections shall be of sufficient size and scope to support the university’s total instructional needs and to facilitate the university’s research programs” (ACRL, 1979 p.102). 66

(2) The role of the university library within the context of the institution’s information policies and academic goals. The mission of the university library is to provide information services in support of the teaching, research, and public service missions of the university. The achievement of the mission requires the development of standards to address the ways in which goals
should be developed and measured, needed resources estimated, and success in goal achievement evaluated (ACRL, 1989).  

Such standards appropriately reinforce general principles that libraries should follow and may be useful when the libraries to which the standards apply are so diverse that they can agree on nothing but these principles. For example, the “Standards for University Libraries” issued by the IFLA (1987) were designed to meet the needs of universities of all sizes, with differing goals, in both developed and third world countries.

4.4.6 Standardization Bodies and Committees

There are various agencies at the national and international level, which are responsible to maintain and update the standards and guidelines. These bodies are involved in standardized procedures, working methods and guidelines, which improve library and information services. There are a number of standard organizations and committees or bodies or groups. Some of them are:

1. International Organization for Standardization (ISO)
2. American Information Standard Institute (ANSI)
3. International Federation of Library Associations and Institutions (IFLA)
4. Library of Congress (LC)
5. American Library Association (ALA)
6. British Standard Institute (BSI)
8. Association of Research Libraries (ARL)
10. Bureau of Indian Standard (BIS)
4.4.7 Standardization Efforts in India

In India efforts to formulate norms and standards for library and information services have been going on for the past five decades or so mainly due to the farsightedness and initiatives of Dr. S.R. Ranganathan who had done a lot of work in most other areas of library and information systems and services.

Dr. S.R. Ranganathan in his book 'Library Administration' (a prosaic manual of details, job analysis, etc.,) discusses all aspects of standardization in library including experiences that he gained during his study travel in the UK in 1924, in managing the Madras University library for two decades and teaching the subject. Even as early as the mid 1940s, Dr. Ranganathan, in collaboration with R.R. Sharma, an architect, drew up standards for library buildings and fittings. A series of joint papers were published in the Modern Librarian (1947-48). In 1957, as the Chairman of the UGC's library committee he prepared a report for the development and organization of libraries. The report discusses, among other things, standards for staff (number and performance standards), buildings furniture, equipment, finances, library services, etc. Subsequently, the Kothari Commission also made some recommendations on norms and standards in libraries.

Library evaluation standards tend to be guidelines rather than truly enforceable standards. The most useful standards are based on research about current practices in the existing universities/institutions. They contain quantitative elements to supplement qualitative statements of principles of good library service; emphasize services (outputs) as well as resources (inputs); and are flexible enough to meet the needs of libraries of different types, with different purposes, and of different sizes and levels of resources. Library standards, as they now exit, are useful in providing
evidence for budget requests and they are imprecise to be used in the detailed evaluation of library services.70

The formulation, adoption, adaptation and revision of library, documentation and information norms and standards need to be based on data from work studies, time studies, and cost analysis of library, documentation and information work and services in the Indian context. Projects on such studies should receive adequate financial support. Increasing the awareness among information professionals in India about the importance of norms and standards is very essential.

4.5 Summing up

For an evaluation program to work, it must be an integral part of the regular planning cycle of the library. Evaluation efforts conducted sporadically may solve an immediate problem without appreciably affecting long term change. During the past 20 years many libraries have begun evaluation efforts, especially in the western countries. There are no such efforts are made in the Indian context, but a few have committed themselves to the kind of ongoing, comprehensive evaluation program intervened with regular operating procedures that is truly needed to make libraries more effective and more cost-effective. Comprehensive evaluation programs are needed in all types of libraries to deal with the problems that the profession is now facing. In these days of tight funding, increasing demands for accountability, and rapid technological change evaluation efforts may make a difference in the survival of individual libraries.
References:


16. Ibid., pp 8-11.


23. Mooers, Calvin N. Mooers’ law or why some retrieval systems are used and others are not. *American Documentation*, 11(3), July 1960.


45. Ibid., pp 19.


51. Ibid, pp 121.


