

Quality and quality systems in libraries

- **Dr. Roswitha Poll** -

Abstract

The paper gives an overview of quality criteria in libraries and information services and shows methods for assessing and measuring the quality of library services.

Quality indicators for library services have been developed and standardized and are today in widespread use, as well in separate libraries as in regional or national joint projects. For a long time, measures of effectiveness and cost-efficiency were primarily dealt with. Recently, the funding institutions are above all interested in the outcome of library services, and measures for this topic are being developed.

Quality standards in libraries imply that mission and goals of the library have been defined and that a system of continuous evaluation is established. The paper shows examples of such systems and details problems in introducing and maintaining systematic evaluation and continuous improvement

Definitions of quality

To achieve high quality in their products and services is essential not only for commercial firms, but also for all non-commercial institutions. Quality will have a different aspect in every firm or institution, but there is a broad consensus in management literature about a general definition of quality. The most-cited definitions are

- Quality is fitness for purpose
- Quality is conformance to requirements (of the customers / users)

In an ISO standard quality is described as “the totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs”.¹

Quality in these definitions is defined as being meaningful only in relation to the customer or user: “...the key issue is that quality becomes a meaningful concept only when it is indissolubly linked to the aim of total customer satisfaction”.²

If quality is defined in relation to the end-users, the customers, then quality of a product or service must not by all means be the highest grade possible. A product of a simpler grade may have high quality because it meets the needs and expectations of its target customer group.

One example: Bicycles

For the normal cyclist, a bicycle should be:

- Solidly built
- Durable
- Easy to use
- Cheap

For the racing cyclist, it should have:

- Highest possible durability
- Light weight
- Many extras
- But it might be expensive

Quality for one customer or customer group does not always mean quality for another .

Library quality: the criteria

¹ ISO 8402 (1996)

² Brophy, Peter, and Kate Coulling: Quality Management for Information and Library Managers. Aslib Gower:1996, p.6.

EAHIL Workshop

Implementation of quality systems and certification of biomedical libraries
Palermo, June 23-25, 2005

Quality in library and information services can have many aspects. Peter Brophy, starting from the general management literature, has adapted a set of quality attributes to libraries.³ The following table relies for the most part on Brophy's collection and shows the quality criteria with typical examples of their appliance to library services.

Criteria of library quality

| | | Example |
|---|---|--|
| Performance | A service meets its most basic purpose | Making key information resources available on demand |
| Features | Secondary characteristics which add to the service but are beyond the essential core | Alerting services |
| Reliability | Consistency of the service's performance in use | No broken Web links |
| Conformance | The service meets the agreed standard | Dublin Core |
| Durability | Sustainability of the service over a period of time | Document delivery within 2 days |
| Currency | Up-to-dateness of information | Online catalogue |
| Serviceability | Level of help available to users | Complaint service |
| Aesthetics | Visual attractiveness | Physical library, Website |
| Usability/Accessibility | Ease of access and use | Opening hours, Website structure |
| Assurance/Competence/Credibility | Good experience with staff's knowledgability | Correct reference answers |
| Courtesy/Responsiveness/Empathy | Accessibility, flexibility and friendliness of staff | Reference service |
| Communication | Clear explanation of services and options in language free of jargon | Website, Signposting in the library |
| Speed | Quick delivery of services | Interlibrary lending |
| Variety of services offered | May clash with quality, if resources are not sufficient for maintaining quality in all services offered | Broad collection, Reference service in walk-in, mail and chat form |
| Perceived quality | The user's view of the service | Assessment by satisfaction surveys |

The stakeholders' view

"Stakeholders are all groups that have an interest in the functioning of an institution. For a library, this will normally be:

- The users (actual and potential users)
- The financing authorities (a university, a community, a commercial firm, etc.)
- The library's own staff

³ Brophy, Peter: The Quality of Libraries. In: Die effektive Bibliothek. Roswitha Poll zum 65. Geburtstag. München: Saur 2004, pp.30-46.

EAHIL Workshop

Implementation of quality systems and certification of biomedical libraries
Palermo, June 23-25, 2005

Their view of the library's quality will always differ. While users judge on the quality of the services they use, authorities will be interested in the library's benefit to the institution it has been set up to serve and in the library's cost-effectiveness. Staff, on their part, look to the quality of their working conditions, to further education and to the library's organization.

Stakeholder views of library quality

| | |
|------------------------------|---|
| Users | <ul style="list-style-type: none">• Access to information worldwide• Delivery of information to the desktop• Speed of delivery• Good in-library working conditions• Responsiveness of staff• Reliability of services |
| Financing authorities | <ul style="list-style-type: none">• Cost-effectiveness• Clear planning, effective organization• Positive outcome on users• Effective cooperation with other institutions• High reputation of the library |
| Staff | <ul style="list-style-type: none">• Good working conditions• Clear planning, straight processes• High reputation of the library• Systematic staff development |

Not all of the issues named here are indeed criteria of library quality. A good reputation for instance is rather an effect of quality services, but it is important for maintaining quality.

The model of quality management

Managing a library's quality requires that the special task of the library in question is clear. A definition of the library's mission – in consensus with the authorities – should precede all other steps. Such a mission statement for academic libraries could be similar to the one which German academic libraries agreed upon in the German benchmarking project BIX, that was sponsored and coordinated by the Bertelsmann Foundation and the German Library Association.⁴ The mission statement is here presented in a shortened form:

The library orients its range of services consequently to ...

- the needs of its clientele and
- the strategic goals of the institution and
- actively brings the services to the users

⁴ BIX – Der Bibliotheksindex (<http://www.bix-bibliotheksindex.de>)

EAHIL Workshop

Implementation of quality systems and certification of biomedical libraries
Palermo, June 23-25, 2005

- **Procuring information**

- collection
- document delivery
- portals

- **Producing information**

- publishing
- archiving
- cataloguing

- **Support for teaching and learning**

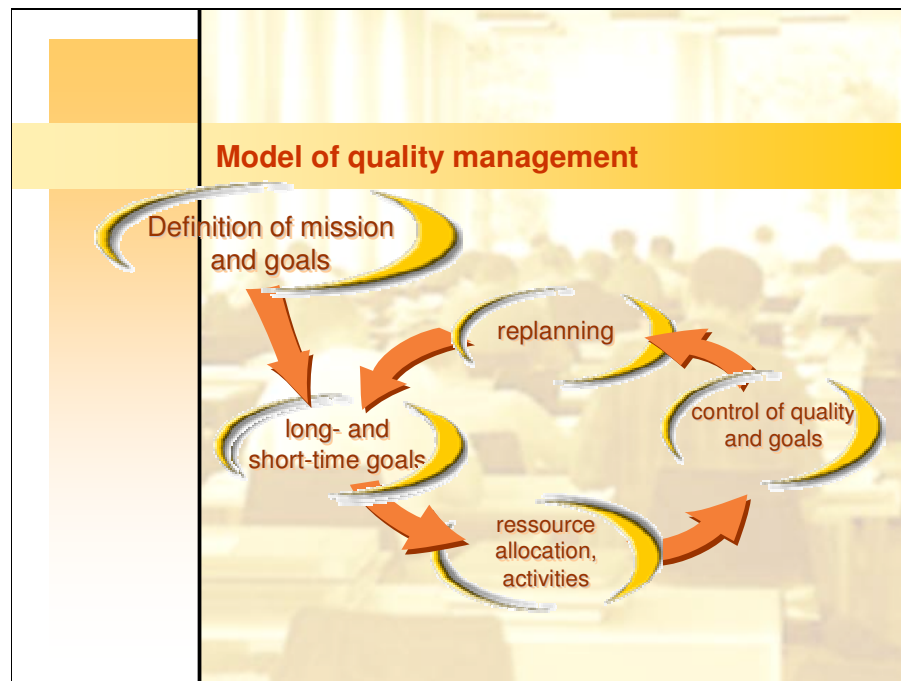
- workplaces
- support for remote teaching and learning and multimedia
- teaching information literacy

- **Management**

- innovative technology
- adequate management methods
- staff development
- cooperation

When the mission and the general goals have been described, long- and short-time goals can be fixed and resources (funds, space, staff time) can be allocated to the activities that are necessary for the attainment of the goals. After some time, it will be necessary to control whether the goals and the desired quality have been attained. This will probably lead to replanning and to redefining goals for the next period.

The simple model of quality management would then show like this:



EAHIL Workshop

Implementation of quality systems and certification of biomedical libraries
Palermo, June 23-25, 2005

Performance measurement

Performance or quality indicators (measures) have been developed and applied by libraries since several decades and have been published in handbooks and standards. Criteria for such performance indicators should be that

- they show an integrated view of the library, including traditional as well as new electronic services,
- they allow comparison between libraries,
- the methods are valid,
- the results have informative content for management,
- the methods are practical (e.g. as many data as possible taken from the national library statistics).

Performance indicators measure on the one side the **effectiveness** in delivering services to users and on the other side the **cost-effectiveness**, the efficient use of existing resources. Quality would then mean that a service is “good” as well as “cheap”.

Performance indicators for traditional and for electronic services answer the same questions:

1. Are the library's services used by its population⁵?
 - Library visits per capita (per member of the population)
 - Loans per capita
 - Number of content units downloaded per capita⁶
 - Workstation use rate
2. Does the library's collection (whether print or electronic) meet users' demands?
 - Document use rate (collection use rate)
 - Availability of required titles (titles that at least one user requires)
3. Are the processes in the library well organized?
 - Shelving accuracy
 - Speed of interlibrary lending
4. Is the library working cost-efficiently?
 - Cost per database session
 - Cost per loan

Some new indicators show the library's development of electronic services and the acceptance of such services by users:

- Percentage of expenditure on information provision spent on the electronic collection
- Percentage of information requests submitted electronically

Data for these and other performance indicators are not always easy to find. They have to be collected from:

- The annual library statistics (e.g. number of visits, of user working-places...)
- The statistics of the library's institution (e.g. members of the population)
- The automated library system (e.g. number of loans, of active users, of ILL requests...)

⁵ The population or primary user group of an academic library consists of the members of the institution, e.g. academic staff and students of a university.

⁶ content unit = computer-processed uniquely identifiable textual or audiovisual piece of published work that may be original or a digest of other published work (ISO DIS 2789:2005: International library statistics)

EAHIL Workshop

Implementation of quality systems and certification of biomedical libraries
Palermo, June 23-25, 2005

Some data must be collected manually for an indicator (e.g. number of working-places in use at a certain time).

When a library uses performance indicators in order to assess the quality of its services, it will be useful to compare the results with those of other libraries of a similar structure.

Example:

If a library reaches 89 % of correct shelving, is that good quality? Comparison with other libraries shows 95 – 98 % as an average score. So, the library should look into its shelving procedures.

In order to make such comparison possible, it is necessary that the same procedures of measuring are used.

Example:

In using the performance indicator “Loans per capita” the result may be influenced by what is regarded as a “loan”:

- Only initial loans (without renewals)?
- Are in-house loans included?
- Are perhaps even interlibrary loans included?

In order to support uniform definitions and procedures, statistics and performance indicators for libraries have been standardized within the frame of ISO (International Organisation for Standardization). Two standards are especially helpful:

- ISO DIS 2789: 2005 Information and documentation – International library statistics (The standard is under revision and will be published in 2006)
- ISO CD 11620: 2005 Information and documentation – Library performance indicators (The standard is under revision and will be published in 2006/2007)

Assessing users' needs

Users' needs and wishes can for instance be ascertained by the evaluation of use data or reference questions or by services for complaints and suggestions. For a broad overview most libraries conduct a user satisfaction survey that asks for the user's satisfaction with the library's services and products, often on a 5-point scale. Assessing the grade of satisfaction with a service can be connected with an inquiry after the importance of that service for the user. Dissatisfaction with a service that the users rate as important would make it urgent for the library to react on that result.

Satisfaction surveys can be offered to users in different formats:

| Method | Advantages | Problems |
|---|--------------------------------------|---|
| Print questionnaire in the library | High recall | Only active users |
| Questionnaire by mail to a sample of potential users | Non-users are included | Less recall |
| Telephone survey | High recall by direct contact | Time-consuming; may be influenced by the interviewer |

EAHIL Workshop

Implementation of quality systems and certification of biomedical libraries
Palermo, June 23-25, 2005

| | | |
|---|-------------------------------|--|
| Online survey (e.g. in connection with OPAC use) | No distribution needed | Bias on users who frequently use E-services |
|---|-------------------------------|--|

A well-known model for assessing the quality of services that came from the commercial sector, the SERVQUAL model, was adapted to libraries by ARL (Association of Research Librarians) and is now called LibQual^{+TM}.⁷ It asks for the gap between

- minimum expectation,
- perceived levels,
- and desired levels.

The survey has by now been used by more than 500 libraries.

The internal customer

When assessing user/customer needs, the internal customer should not be forgotten. Every department or working group in the library is dependent on services of other departments or groups or of external suppliers.

Examples:

- The acquisitions department will depend on the subject librarians, who select the titles to be bought, and on booksellers/suppliers.
- Cataloguing – if still separate from acquisitions - depends on how acquisitions deliver their work.
- The circulation department is dependent on the speed of acquisitions/cataloguing and the shelving team.

Each person or group in a chain of activities must rely on the quality of another's work (quality chain). It has therefore proved efficient to start an internal satisfaction survey that asks for satisfaction with the speed, accuracy, reliability, communication and helpfulness of the "suppliers".⁸

Outcome and impact of libraries

Performance measurement and user surveys can show whether a library is effective and efficient in delivering its services. But neither of these methods shows whether and how users benefited from their contact with library services. Outcome or impact means that there is a change in a user's skills, knowledge, or behaviour.

"Outcomes are the results of library use as affecting the individual user."⁹

"Outcomes are the ways in which library users are changed as a result of their contact with the library's resources and programs."¹⁰

⁷ <http://www.libqual.org>

⁸ Such a survey has e.g. been conducted by the University of Virginia Library
<http://www.lib.virginia.edu/mis/surveys/internal2.html>

⁹ Revill, Don: Performance Measures for Academic Libraries. In: Encyclopedia of Library and Information Science, Vol.45, Suppl.10 (1990), p.316

¹⁰ ACRL. Association of College and Research Libraries. Task Force on Academic Library Outcomes Assessment Report. June 27 1998 .<http://www.ala.org/ala/acrl/acrlpubs/whitepapers/taskforceacademic.htm>

EAHIL Workshop

Implementation of quality systems and certification of biomedical libraries
Palermo, June 23-25, 2005

Since several years, projects worldwide have tried to find methods for proving an outcome of library services. There is of course the huge problem, that influences on an individual are manifold and that therefore it is difficult to trace changes and improvements back to the library. Nevertheless, there is quite a number of possible methods that have already yielded interesting results:

Information literacy

- Skills /competences improved after training
- Correlation of library teaching attendances to student retention rate

Importance of the local library for research

- Estimation of the library's importance by a survey
- Percentage of citations in publications in the local library collection

Financial value of library services

- Estimation of time saved by a survey
- Willingness-to-pay

Academic success

- Correlation of library services use to success
- Correlation of library services use to number/ citation of publications

This can only be a short overview of what is being done in this sector. The existing literature has been collected within the frame of the IFLA Section Statistics and Evaluation¹¹, and a working group has been set up in order to prepare guidelines for assessing the outcome of libraries.

Quality management models

The literature to quality management comes primarily from the industrial sector and concentrated first on physical products. Later, the concept was widened to integrate services. If the whole organization of an institution is included in the control of quality, we speak of a quality system. There are several such systems or models that have also been implemented in libraries.

ISO 9000: Quality management is a group of standards that concentrate on quality products and services. The system is characterized by a quality manual with documented procedures and goals and a quality coordinator. Institutions using ISO 9000 can get a certificate. The system was in the beginning of the 90ies implemented in libraries, mostly in special libraries whose mother institution used it. Medical libraries were among the first that used ISO 9000. The system has been criticized for its industrial and technical bias and its product-orientation.

Total Quality Management (TQM) is a quality system aiming at changing the whole organizational culture. Many of its aspects are similar to those of ISO 9000, but the system is more user-oriented. Important topics are

- "First time right" = Everybody is responsible for her/his work, control and corrections should be minimized.
- Continuous Quality Improvement (CQI)
- Total commitment of management and staff

¹¹<http://www.ulb.uni-muenster.de/outcome>

EAHIL Workshop

Implementation of quality systems and certification of biomedical libraries
Palermo, June 23-25, 2005

The system, like ISO 9000, was implemented in libraries since the beginning of the 90ies, and again most often in special libraries.

EFQM (European Foundation for Quality Management¹²): EFQM was founded in 1998 by 14 European institutions with the goal of sustainable excellence. Evaluation of quality relies on self-assessment and on the following aspects:

- Impact on society
- Results orientation
- User orientation
- Leadership and strategy
- Management by processes and facts
- Staff development and involvement
- Continuous learning, innovation, improvement
- Partnerships

Issues like staff involvement, user orientation, partnership, and impact on society coincide very well with the topical development in libraries, though self-assessment has rather a subjective bias. The system was recently implemented in public libraries in the Netherlands and academic libraries in Andalusia. EFQM has instituted the European Quality Award (EQA) and is also known under the name of CAF (Common Assessment Framework).

Using a system of performance indicators

Quality systems like ISO 9000 or TQM involve time-consuming procedures and therefore have not been implemented by libraries on a broad scale. Libraries have taken up issues like “first time right” or “continuous improvement”, but few will adapt the total system.

For cooperation and benchmarking in quality management, another way has been tried in several countries: To choose a list of performance indicators that is regularly used by a defined group of libraries over years. By using the same indicators and procedures, the results become comparable and give information as to:

- Problems and failures in each library’s management
- Examples of best practice
- Trends in library development and library use over years

Examples:

Sweden: A Quality Handbook for university libraries was developed and data collection started in 2002.¹³ The 12 indicators rely very much on ISO 11620 and the IFLA guidelines.¹⁴

Norway: The Norwegian Archive, Library and Museum Authority has recently developed sets of performance indicators for all types of libraries.¹⁵

Netherlands: The benchmarking project for university libraries started in 1999 and has 24 performance indicators.¹⁶

¹² <http://www.efqm.org/>

¹³ Jönsson Adrial, Christina, Johan Edgren, Jan Nilsson and Susanna Mansby: Together we Shape Better Libraries: The Swedish Quality Handbook Project. In: IFLA Journal 31(2) 2005, pp.188-193.

¹⁴ Poll, Roswitha and Peter te Boekhorst: Measuring Quality. International Guidelines for Performance Measurement in Academic Libraries. München: Saur 1996.

¹⁵ <http://www.abm-utvikling.no>

¹⁶ Daalmans, Peter: UKB Benchmarking Dutch University Libraries
<http://www.ukb.nl/English/muenster.htm#01>

EAHIL Workshop

Implementation of quality systems and certification of biomedical libraries
Palermo, June 23-25, 2005

A benchmarking project that tries to combine performance measurement with the structure of the Balanced Scorecard is BIX – Der Bibliotheksindex.¹⁷ It started in 1999 for public libraries and in 2004 for academic libraries. The BIX for academic libraries uses the Balanced Scorecard¹⁸, a management strategy with four perspectives:

- Users
- Finances
- Processes
- Learning and development

In BIX these perspectives were adapted to library management as follows:

- Resources, infrastructure
- Use
- Efficiency
- Development (potentials)

Using the structure of the Balanced Scorecard helps to consider all important management issues and to establish a “balance” between topics like user-orientation and cost-effectiveness, a good organization and the ability to cope with future developments.

The BIX for academic libraries works with 17 indicators, grouped as to the 4 perspectives:

Resources / Infrastructure

(Question: What infrastructure does the library offer for use?)

1. Square metres of user area per 1000 members of the population
2. Library employees per 1000 members of the population
3. Expenditure on literature and information per 1000 members of the population
4. Percentage of that expenditure spent on the electronic collection
5. Opening hours per week

Use

(Question: How are the offered services used?)

1. Library visits per capita (physical visits and website visits counted separately)
2. Market penetration (Percentage of active borrowers in the population)
3. Attendances at user training sessions per 1000 members of the population
4. Immediate availability (immediate loans as a percentage of total loans, including reservations and interlibrary lending)
5. User satisfaction rate (identical online survey in all libraries)

Efficiency

(Question: Are the services offered cost-effectively?)

1. Library expenditure per capita (acquisitions, material costs, staff)
2. Ratio of acquisitions expenditure to staff costs (only relevant for libraries with a budget where they can shift resources)
3. Employee productivity. Example: Media processing = processed media per person per year (persons calculated as FTE = full time equivalent)

Development / Potentials

(Question: Is sufficient potential available for the necessary developments?)

1. Hours of training per staff member per year
2. Percentage of the university budget allocated to the library
3. Percentage of library means received through third-party funds, special funds and income generation

¹⁷ see Note 4

¹⁸ Kaplan, Robert S. and David P. Norton: The Balanced Scorecard: Translating Strategy into Action. Boston 1996

EAHIL Workshop

Implementation of quality systems and certification of biomedical libraries
Palermo, June 23-25, 2005

4. Percentage of library staff providing and developing electronic services

Though the survey goes now into its 3rd year, there are still some problems of definition in the indicators. But the results are intensively used in the participating libraries.

A practical start into quality management

Many libraries will just drift into using methods of quality management by starting with one problematic area in the library and going on to other areas because the results proved useful. A simple and practical way into quality management might be the following:

1. Mission and general goals should be defined before starting.
2. The first step should be to assess user opinions by a satisfaction survey.
3. The next step could be self-assessment in the library by using the EFQM model or a SWOT-Analysis.¹⁹
4. As the first 2 steps are rather subjective, in the next step more objective performance indicators should be used.
5. In order to validate the results of performance measurement, the scores should be compared with those of other libraries. For comparison, the mission, structure and clientele of the libraries should be similar.
6. Having now assessed the quality of services by user and staff opinion, performance measurement and benchmarking, it should be possible to trace problems and failures and to define possible improvements.
7. The next step will be to revise existing goals and to re-allocate resources to the goals.

And now: Start again...

Quality management is indeed a continuous process.

¹⁹ SWOT = Strengths , Weaknesses, Opportunities, Threats