Information and documentation — Performance indicators for electronic library services

Élément introductif — Élément central — Élément complémentaire

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Introduction

This Technical Report is concerned with the evaluation of electronic library services.

The successful provision of these services depends on close collaboration between publishers, network providers, and librarians. Their needs for data about various aspects of performance are different, and the ability to collect data may not rest with the person most interested in that data. For example, the publisher may be best placed to collect data on the usage of a particular service; whereas the librarian may have most interest in using that data in developing and evaluating the service.

The main purpose of this Technical Report is to spread knowledge about the practice of evaluating electronic library services. Although electronic library services have been developed over more than thirty years, the technical environment has changed significantly in the last ten years. The need for performance indicators for electronic services was acknowledged in ISO 11620: 1998 Information and documentation - Library performance indicators. It was also acknowledged that at the time of publication of that International Standard, there were no indicators that had been tested and documented, or that were in widespread use. Although there has been significant progress in the last few years on the definition, testing and documentation of indicators, it is still too soon to determine which indicators will be most generally useful, or become widely used. This Technical Report provides a standardized terminology and concise definitions and descriptions of a selection of performance indicators, in the same format as that used in ISO 11620. Publications listed in the Bibliography [2,3,5] provide more detailed information on data collection and analysis.

Only a small number of the indicators presented here are indicators of service quality; work on this area is not yet mature enough to be included. The indicators that are included have been tested in libraries, or are simple adaptations of similar indicators. In each case they have been judged against the criteria established in ISO 11620. That is, each indicator is judged to have informative content, to be reliable, valid, appropriate, practical, and in some circumstances may be used for comparative purposes.

The indicators presented in this Report are a representative selection of those which have been tested. A further selection would have taken longer to prepare, and to publish. Developments in the measurement and evaluation of electronic library services will be monitored by a Working Group, which will propose additional indicators, and modifications or adaptations to the indicators here as they are tested and validated. This Technical Report should be considered as work in progress towards the development of an International Standard. It is intended that, where appropriate, the contents of this Technical Report will be incorporated in a future revision of ISO 11620.
Information and documentation — Performance indicators for electronic library services

1 Scope

This Technical Report is applicable to all types of libraries in all countries. Limitations on the applicability of individual performance indicators are listed in the scope clause of the description of each indicator (see Annex B).

Indicators may be used for comparison over time for the services provided by the same library. Comparisons between libraries and services should only be made with caution, taking into account differences in the constituencies of the libraries, with good understanding of the indicators used, and careful interpretation of the data.

This Technical Report does not include indicators for the evaluation of the impact of libraries either on individuals or on society.

Throughout the text, the names of indicators are printed with initial capitals for significant words, e.g. Workstation Use Rate. This helps to distinguish the names from supporting text.

2 Normative references

The following International Standards contain provisions which, through reference in this text, constitute provisions of this Technical Report. At the time of publication, the edition indicated was valid. All International Standards are subject to revision, and parties to agreements based on this Technical Report are encouraged to investigate the possibility of applying the most recent edition of the International Standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO/2789:2002 Information and documentation - International library statistics

ISO 5127:2001 Information and documentation - Vocabulary


3 Definitions

3.1 database

collection of electronically stored data or unit records (facts, bibliographic data, texts) with a common user interface and software for the retrieval and manipulation of the data. [ISO 2789]

NOTE 1 The data or records are usually collected with a particular intent and are related to a defined topic. A database may be issued on CD-ROM, diskette, or other direct access method, or as a computer file accessed via dial-up methods or via the Internet.
NOTE 2 Licensed databases are counted separately even if access to several licensed database products is effected through the same interface.

3.2 digital document

information unit with a defined content that has been digitized by the library or acquired in digital form as part of the library collection. [ISO 2789]

NOTE 1 This includes eBooks, electronic patents, networked audiovisual documents and other digital documents, e.g. reports, cartographic and music documents, pre-prints etc. Databases and electronic serials are excluded.

NOTE 2 Items incorporated in databases are covered by 3.1.

NOTE 3 A digital document can be structured into one or more files.

3.3 document

recorded information or material object which can be treated as a unit in a documentation process. [ISO 5127]

NOTE Documents may differ in their physical form or characteristics.

3.4 document downloaded

full text of a document or part of a document in the electronic collection that is delivered to a user. [ISO 2789]

3.5 electronic collection

all resources in electronic form in the library collection. [ISO 2789]

NOTE The electronic collection includes databases, electronic serials, and digital documents. Free Internet resources which have been catalogued by the library in its OPAC or a database should be counted separately.

3.6 electronic resource

a document in electronic form which forms a separate item with a distinctive title, whether issued in one or several units.

3.7 electronic service

electronic library service which is either supplied from local servers or accessible via networks. [ISO 2789]

NOTE Electronic library services comprise the OPAC, the library web site, the electronic collection, electronic document delivery (mediated), electronic reference service, user training on electronic services and Internet access offered via the library.

3.8 entry

a unit of bibliographic or factual information or multimedia objects included in a searchable database.
3.9 information request

information contact that involves the knowledge or use of one or more information sources (such as printed and non-printed materials, machine-readable databases, the library’s own and other institutions’ catalogues) by library staff. [ISO 2789]

NOTE 1 May also involve recommendations, interpretation or instruction in the use of such sources.

NOTE 2 The request can be delivered personally or by means of telephone, regular mail, fax or electronic media (via e-mail, the library web site or other networked communications mechanisms).

NOTE 3 It is essential that libraries do not include directional and administrative inquiries, e.g. for locating staff or facilities, regarding opening times or about handling equipment such as reader printers or computer terminals.

NOTE 4 Inquiries are also excluded if asked for the purpose of locating items of stock that have already been identified bibliographically.

3.10 library collection

all documents provided by a library for its users. [ISO 2789]

NOTE 1 Comprises documents held locally and remote resources for which permanent or temporary access rights have been acquired.

NOTE 2 Access rights may be acquired by the library itself, by a consortium and/or through external funding.

NOTE 3 Acquisition is to be understood as deliberately selecting a document, securing access rights and including it in the OPAC or other databases of the library. Interlibrary lending and document delivery and excluded.

NOTE 4 Does not include links to Internet resources for which the library has not secured access rights by legal agreements (e.g. legal deposit right), license or other contractual and/or co-operative agreement. Free Internet resources which have been catalogued by the library in its OPAC or a database should be counted separately.

3.11 population to be served

number of individuals for whom the library is set up to provide its services and materials. [ISO 11620]

NOTE For public libraries this will normally be the population of the legal service area (authority); for libraries of an institution of higher education this will normally be the total of academic and professional staff plus students.

3.12 rejected session (turnaway)

unsuccessful request of a database or the OPAC because of requests exceeding simultaneous user limit. [ISO 2789]

NOTE Rejection through entry of wrong passwords is excluded.

3.13 remote session

a successful request of a database established from outside the library building. [adapted from EQUINOX]
3.14 session

A successful request of a database or the OPAC. [ISO 2789]

NOTE 1 A session is one cycle of user activities that typically starts when a user connects to a database or the OPAC and ends with explicit (by leaving the database through log-out or exit) or implicit (timeout due to user inactivity) termination of activities in the database. The average timeout period would be 30 minutes. If another time period is used this should be reported.

NOTE 2 Sessions on the library web site are counted as virtual visits.

NOTE 3 Requests of a general entrance or gateway page should be excluded.

NOTE 4 If possible, requests by search engine should be excluded.

3.15 user training

Training programme set up with a specified lesson plan, which aims at specific learning outcomes for the use of library services [ISO 2789]

NOTE 1 User training can be offered as a tour of the library, as library tuition, or as a web based service for users.

NOTE 2 The duration of a lesson is irrelevant.

3.16 virtual visit

A user's request of the library web site from outside the library premises regardless of the number of pages or elements viewed. [ISO 2789]

3.17 web site

Electronic service that has a unique domain on the Internet and consists of a collection of digital documents. [ISO 2789]

NOTE 1 The pages of a web site are usually interconnected by the use of hypertext links.

NOTE 2 Excludes the documents that fit the definitions of electronic collection and external Internet resources that may be linked from the library web site.

3.18 workstation

Computer that may stand alone or be networked, or a dumb terminal. [ISO 2789]
4 Relationships with other indicators

4.1 The networked environment

The networked environment provides a different frame of reference for the provision of services: the boundaries between internal and external provision are different. For example, consider document delivery. In traditional library services this is represented by the interlending of physical documents between libraries. In the electronic world, document delivery is accomplished using a network. The network may be provided by a variety of external providers. Special equipment has to be installed in the libraries at both ends of document delivery process and staff have to be trained to use it. The suppliers of documents may be publishers or libraries; the end users may be directly in communication with the suppliers.

Again, the provision of equipment within the organisation of which the library forms a part, may be outside the library's own control: however, the library's performance may be judged on its service delivery even though it does not control some of the infrastructure essential to the delivery of the service.

It is because the boundaries within which electronic services operate differ from those in which traditional library services operate that comparisons between traditional and electronic library services are difficult, if not impossible. Since the extent to which different libraries have adopted electronic library services will differ then comparisons between libraries are increasingly difficult. The position is further complicated by the changes in expectations, experience and behaviour of users and of publishers. New generations of users will increasingly, at least in the developed world, be familiar with the use of computers and Internet applications generally and will expect electronic services as a matter of course. There will, however be for some considerable time significant numbers of older users who are less familiar with the concepts and practice of computer usage and will need careful support if they are not to be disadvantaged.

On the other hand, publishers are operating in a variety of ways to deal with the possibilities of electronic publishing. Long established practices in the supply of printed materials do not operate in the same way when original works are often generated in electronic format. The economics of publication in electronic formats are significantly different from those in printed formats and different charging models are being tried. The preferred format varies for electronic publications between types of publication, and may also vary from year to year; and the financial arrangements between library and publisher also vary between publications and from year to year.

Furthermore, the ability to measure the usage of publications in electronic format differs radically from that associated with print formats. It may be possible, although expensive, for a library to account for every use made of a printed document within a library: it may well be impossible for the library to count every use made of electronic documents. The publisher may be able count use made of the electronic format, while having no idea of the use made of printed documents. Effective performance measurement thus depends on new arrangements and collaboration between the copyright owners, publishers, agents, librarians and users.

A final point relates to ‘Per capita’ indicators. Some electronic library services (web-sites, OPACs, ‘free’ information services) can be accessed by anyone, and are not limited to the population to be served. In these cases, usage per capita ratios would be artificially inflated, if the data were collected automatically. If a library is interested in knowing what proportion of its population to be served is using its services remotely, those data could be collected by a conventional survey technique.

4.2 Categories of performance indicators

In defining performance indicators for electronic library services it is natural to start by seeking analogies with performance indicators for traditional library services. Reference to ISO 11620:1998 and its amendment ISO 11620/ADM 1 show a list of 34 indicators. These are grouped in a number of categories according to the following table.
<table>
<thead>
<tr>
<th>Service, activity or aspect measured</th>
<th>Sub-category</th>
</tr>
</thead>
<tbody>
<tr>
<td>User Perception</td>
<td>General</td>
</tr>
<tr>
<td>Public services</td>
<td>General</td>
</tr>
<tr>
<td></td>
<td>Providing documents</td>
</tr>
<tr>
<td></td>
<td>Retrieving documents</td>
</tr>
<tr>
<td></td>
<td>Lending documents</td>
</tr>
<tr>
<td></td>
<td>Document delivery from external sources</td>
</tr>
<tr>
<td></td>
<td>Enquiry and reference services</td>
</tr>
<tr>
<td></td>
<td>Information searching</td>
</tr>
<tr>
<td></td>
<td>User Education</td>
</tr>
<tr>
<td></td>
<td>Facilities</td>
</tr>
<tr>
<td>Technical Services</td>
<td>Acquiring documents</td>
</tr>
<tr>
<td></td>
<td>Processing documents</td>
</tr>
<tr>
<td></td>
<td>Cataloguing</td>
</tr>
<tr>
<td>Promotion of services</td>
<td></td>
</tr>
<tr>
<td>User services</td>
<td>Deployment of staff</td>
</tr>
</tbody>
</table>

In drawing up this technical report it has proved possible to use the same categories for the proposed performance indicators with only minor modifications (see Annex A). The applicability of the indicators in ISO 11620 is discussed in the following sub-clause.

4.3 The relevance of ISO 11620 to electronic library services

4.3.1 Indicators that apply equally to traditional and electronic library services

Some indicators are the same for both traditional and electronic library services. An obvious example is User Satisfaction. Others need only very slight changes to existing definitions and descriptions of methods to make it clear that they are relevant to both types of service: an example is Cost per Title Catalogued. Similarly, the group of indicators relating to providing documents: here the definitions and descriptions would need to be modified to include documents in electronic formats. There are other indicators that have analogues in the networked environment (see 4.3.3), but more substantial revision would be needed to accommodate different formats, and different bases for measurement.
<table>
<thead>
<tr>
<th>Service, activity or aspect measured</th>
<th>Performance indicator</th>
<th>Reference in ISO 11620</th>
</tr>
</thead>
<tbody>
<tr>
<td>User perception: General</td>
<td>User Satisfaction</td>
<td>B.1.1.1</td>
</tr>
<tr>
<td>Public services: Providing documents</td>
<td>Titles Availability</td>
<td>B.2.2.1</td>
</tr>
<tr>
<td></td>
<td>Required Titles Availability</td>
<td>B.2.2.2</td>
</tr>
<tr>
<td></td>
<td>Percentage of Required Titles in the Collection</td>
<td>B.2.2.3</td>
</tr>
<tr>
<td></td>
<td>Required Titles Extended Availability</td>
<td>B.2.2.4</td>
</tr>
<tr>
<td>Public services: Enquiry and reference services</td>
<td>Correct Answer Fill Rate</td>
<td>B.2.6.1</td>
</tr>
<tr>
<td>Public services: Information searching</td>
<td>Title Catalogue Search Success Rate</td>
<td>B.2.7.1</td>
</tr>
<tr>
<td></td>
<td>Subject Catalogue Search Success Rate</td>
<td>B.2.7.2</td>
</tr>
<tr>
<td>Public services: Facilities</td>
<td>Facilities Availability</td>
<td>B.2.9.1</td>
</tr>
<tr>
<td></td>
<td>Facilities Use Rate</td>
<td>B.2.9.2</td>
</tr>
<tr>
<td></td>
<td>Seat Occupancy Rate</td>
<td>B.2.9.3</td>
</tr>
<tr>
<td></td>
<td>Automated Systems Availability</td>
<td>B.2.9.4</td>
</tr>
<tr>
<td>Technical services: Acquiring documents</td>
<td>Median Time of Document Acquisition</td>
<td>B.3.1.1</td>
</tr>
<tr>
<td>Technical services: Cataloguing</td>
<td>Cost per Title Catalogued</td>
<td>B.3.3.1</td>
</tr>
<tr>
<td>User services; Deployment of staff</td>
<td>User Services Staff per Capita</td>
<td>B.5.1.1</td>
</tr>
<tr>
<td></td>
<td>User Services Staff as a Percentage of Total Staff</td>
<td>B.5.1.2</td>
</tr>
</tbody>
</table>
4.3.2 Indicators that apply only to traditional library services

The indicators in this group are so closely related to the physical format of documents that they have no precise equivalent in the electronic world.

<table>
<thead>
<tr>
<th>Service, activity or aspect measured</th>
<th>Performance indicator</th>
<th>Reference in ISO 11620</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public services: Providing documents</td>
<td>In-library Use per Capita</td>
<td>B.2.2.5</td>
</tr>
<tr>
<td></td>
<td>Document Use Rate</td>
<td>B.2.2.6</td>
</tr>
<tr>
<td></td>
<td>Proportion of Stock not Used</td>
<td>B.2.2.7</td>
</tr>
<tr>
<td></td>
<td>Shelving Accuracy</td>
<td>B.2.2.8</td>
</tr>
<tr>
<td>Public services: Retrieving documents</td>
<td>Median Time of Document Retrieval from Closed Stacks</td>
<td>B.2.3.1</td>
</tr>
<tr>
<td></td>
<td>Median Time of Document Retrieval from Open Access Areas</td>
<td>B.2.3.2</td>
</tr>
<tr>
<td>Public services: Document delivery from external sources</td>
<td>Speed of Interlibrary Lending</td>
<td>B.2.5.1</td>
</tr>
<tr>
<td>Technical services: Processing documents</td>
<td>Median Time of Document Processing</td>
<td>B.3.2.1</td>
</tr>
</tbody>
</table>

4.3.3 Indicators for traditional library services where analogous indicators can be found for electronic library services

In this group, the indicators for electronic services are based on the same concepts as those for traditional services, but the basis for measurement is different. For example, Library Visits per Capita would be replaced by an indicator relating virtual visits to the population to be served. The various indicators for lending documents have analogues now that digital lending is possible.

The fact that analogues can be found suggests that, in a future revision of ISO 11620, it may be necessary to devise composite indicators that integrate traditional and networked services. For example, the indicator Library Visits per Capita could be redefined to include both physical and virtual visits. Two composite indicators are included in this Technical Report: Percentage of Virtual Visits to Total Visits, and Percentage of Information Requests Submitted Electronically. Librarians may wish to create other composite measures and indicators if that proves helpful in their own circumstances.
### 5 Use of performance indicators

#### 5.1 Purposes

The performance indicators described in this Technical Report are used as tools to compare the effectiveness, efficiency and quality of the library's services and products to the library's mission and goals. They can be used for evaluation purposes in the following areas:

- Comparing a single library's performance over years
- Support for management decisions, e.g. reallocating resources, introducing new services, reducing or deleting existing services
- Demonstrating the library's performance and its costs to the funders, the population, and the public
- Comparing performance between libraries of similar structure and mission indicators should be able to suggest
- whether the library's performance or the use of its services has changed over years,
- how far performance or use in one library differs from that in other libraries.

### Table: Performance Indicators

<table>
<thead>
<tr>
<th>Service, activity or aspect measured</th>
<th>Performance indicator</th>
<th>Reference in ISO 11620</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public services: General</td>
<td>Percentage of Target Population Reached</td>
<td>B.2.1.1</td>
</tr>
<tr>
<td></td>
<td>Cost per User</td>
<td>B.2.1.2</td>
</tr>
<tr>
<td>Public services: General</td>
<td>Library Visits per Capita</td>
<td>B.2.1.3</td>
</tr>
<tr>
<td></td>
<td>Cost per Library Visit</td>
<td>B.2.1.4</td>
</tr>
<tr>
<td>Public services: Lending documents</td>
<td>Collection Turnover</td>
<td>B.2.4.1</td>
</tr>
<tr>
<td></td>
<td>Loans per Capita</td>
<td>B.2.4.2</td>
</tr>
<tr>
<td></td>
<td>Documents on Loan per Capita</td>
<td>B.2.4.3</td>
</tr>
<tr>
<td></td>
<td>Cost per Loan</td>
<td>B.2.4.4</td>
</tr>
<tr>
<td></td>
<td>Loans per Employee</td>
<td>B.2.4.5</td>
</tr>
<tr>
<td></td>
<td>Proportion of Stock on Loan</td>
<td>B.2.4.6</td>
</tr>
</tbody>
</table>
5.2 Selection of performance indicators

The indicators included in this Technical Report have been developed and tested by libraries in several projects worldwide. They were chosen for this report as most helpful for libraries in general at the present time, and as complying with the criteria for performance indicators named in ISO 11620.

Not all of these indicators might be useful for every type of library or every single library. Libraries will have to decide what indicators are most appropriate for evaluating their special services and products. The decision should be taken in consideration of the library's mission, goals, and objectives, and the population it is set up to serve. There should be an agreement with the institution and relevant authorities, as well as with users, as to what indicators would be most informative for evaluation of the library's electronic services.

Collecting data for performance indicators can be time-consuming and expensive. The decision to use certain indicators may therefore also depend on their practicality, or possibilities of automated data collection, or on the urgent need for the evaluation of certain services. This might be the case when an authority requires data for a particular service, or when it is apparent that a service does not operate satisfactorily. It should be ensured that the data of indicators will be used subsequently for operational management and for the planning process.

The indicators named in this Technical Report form a limited set that is applicable to the main electronic library services and that has been already tested and applied by libraries. They might not prove sufficient for all sorts of special services, and libraries will probably develop and test more and specialised indicators for their special needs.

5.3 Limitations

5.3.1 Measuring the impact of electronic library services

The indicators in this Technical Report evaluate the library's performance by quantitative statements about the supply, use, costs, or market penetration of electronic library services. Libraries are most concerned about the impact of their services, the question whether users benefit by using the services. Such qualitative data should be collected in addition to the quantitative data named in this Technical Report. They can be collected by using methods like user satisfaction surveys, focus groups, or interviews.

The method chosen for collecting qualitative data will depend very much on local circumstances, e. g. the library's target groups. The general method for assessing user satisfaction is described in ISO 11620.

5.3.2 Degree of accuracy

In order to establish scores for the indicators in this Technical Report, it may be necessary to collect data from different sources (suppliers, the library's own servers, consortial servers etc.). Thus, data may be varying or incomplete. Such inconsistencies should be stated explicitly when libraries publish or compare scores.

Other reasons for inaccuracy might be:

- Search engines can affect the number of sessions
- Several users, one after the other, might use an electronic service in a way that different sessions could not be identified
- It might be difficult to differentiate use generated by the library's population from other use

Libraries should define exactly what they regard as their own electronic services, especially as to their electronic collection (see: definitions). This Technical Report tries to give help in defining the contents of data, e. g. as to staff employed in developing and maintaining IT services (see: indicator B.3.2.1).

Such possible sources of inaccuracy should not prevent data collection, but care should be taken with the interpretation of results.
5.3.3 Comparability of performance indicator data

Libraries will use performance indicators primarily for evaluating their own performance, and for comparing trends and developments over years. A secondary purpose is to compare results with those of other libraries. This Technical Report, by describing the indicators and methods, contributes to uniformity of evaluation and thus to make comparison possible.

In comparing results of indicators, libraries should consider:

- The mission, goals, and objectives of each library
- The structure of the population to be served
- The different services and products of each library
- The general conditions under which a library is set up to work

5.3.4 Indicators of temporary importance

Some of the performance indicators named in this Technical Report have an informative value restricted to a certain time and goal. They are valid as indicators if the library sees one of its main goals in offering its services - as far as possible and reasonable - in electronic form.

Such indicators (e.g. B.1.2.1, B.1.4.1, B.3.2.1) measure the amount of resources allocated to electronic services in comparison to traditional services. The indicators show the library's engagement in electronic services and the development over years in the direction of a digital library. They will be valid till a satisfactory state has been reached.

Other performance indicators - indicators of use, costs, or market penetration of electronic services - will have long-time relevance for libraries.
Annex A
List of performance indicators for electronic library services

Table A.1 lists electronic library services and related activities grouped according to the classification used in ISO 11620:1998 [1]. Reference is given to the descriptions provided in annex B.

NOTE - There are a number of other indicators that have been tested in libraries that are not described. The basic data elements used for the indicators described here may be combined in various ways to calculate additional indicators of interest to individual libraries.

Table A.1

<table>
<thead>
<tr>
<th>Service, activity or aspect measured</th>
<th>Performance indicator</th>
<th>Description in Annex B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public services</td>
<td></td>
<td>B.1</td>
</tr>
<tr>
<td>General</td>
<td></td>
<td>B.1.1</td>
</tr>
<tr>
<td></td>
<td>Percentage of Population Reached by Electronic Services</td>
<td>B.1.1.1</td>
</tr>
<tr>
<td>Providing electronic library services</td>
<td></td>
<td>B.1.2</td>
</tr>
<tr>
<td></td>
<td>Percentage of Expenditure on Information Provision Spent on the Electronic Collection</td>
<td>B.1.2.1</td>
</tr>
<tr>
<td>Retrieving documents (Use)</td>
<td></td>
<td>B.1.3</td>
</tr>
<tr>
<td></td>
<td>Number of Documents Downloaded Per Session</td>
<td>B.1.3.1</td>
</tr>
<tr>
<td></td>
<td>Cost Per Database Session</td>
<td>B.1.3.2</td>
</tr>
<tr>
<td></td>
<td>Cost Per Document Downloaded</td>
<td>B.1.3.3</td>
</tr>
<tr>
<td></td>
<td>Percentage of Rejected Sessions</td>
<td>B.1.3.4</td>
</tr>
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Annex B
Descriptions of performance indicators

B.1 Public services

B.1.1 General

B.1.1.1 Percentage of Population Reached by Electronic Services

B.1.1.1.1 Objective
To establish the success of the library in reaching its population to be served.

B.1.1.1.2 Scope
All libraries with a defined population to be served. Libraries may make separate calculations for users of OPACs, subscription databases, electronic journals etc.

B.1.1.1.3 Definition of the indicator
The percentage of the population to be served who have used any of the electronic services provided by the library during a specified time period.

B.1.1.1.4 Method
Draw a random sample from the population to be served and ask each person in the sample if they have used the electronic service during a specified time period. The sample chosen should be representative of the complete population to be served. Questions on the use of electronic services can usefully be included within general surveys of library use.

The Percentage of the Population Reached by Electronic Services is

\[ \frac{A}{B} \times 100\% \]

where

- \( A \) is the number of persons in the sample who have used electronic library services during the specified time period
- \( B \) is the total number in the sample.

Round off to the nearest integer.

NOTE: Alternative sampling and survey methods may also be used. Where a library wishes to make comparisons over time, it is important that the sampling and survey methods used should be consistent between successive time periods.

B.1.1.1.5 Interpretation and factors affecting the indicator
The indicator is an integer in the range of 0 to 100. A high score is generally considered better than a low score. A score that increases from year to year is generally regarded as good.
The score may be affected by several factors, some outside the control of the library service. Examples are: demographic composition of the population to be served; level of education; general social and economic conditions; provision of networked access terminals in the library or in the institution; level of network access available to the population to be served in their homes. It will also be affected by fees charged for services, or by the rules for access to electronic services.

B.1.1.6 Source (see Bibliography)

[1] Adapted from Equinox PI 1

B.1.1.7 Related indicators

Percentage of Target Population Reached [ISO 11620:1998, B.2.1.1]; Number of Remote Sessions on Electronic Services per Capita

B.1.2 Providing electronic services

B.1.2.1 Percentage of Expenditure on Information Provision Spent on the Electronic Collection

B.1.2.1.1 Objective

To assess the extent to which the library is committed to building an electronic collection.

B.1.2.1.2 Scope

All libraries.

May be used for specified parts of a library collection (e.g. journals, subject areas) or individual branches of a library. Within each of these categories the resulting indicators may be compared to see whether the percentage differs significantly.

Comparisons between libraries may be possible if differences in subjects, collection policies, and socio-economic factors in the population are taken into consideration.

B.1.2.1.3 Definition of the indicator

The percentage of the library's total expenditure on information provision spent on the electronic collection.

The electronic collection includes digital documents, electronic serials, electronic books, and databases.

Expenditure on the electronic collection - for the purpose of this indicator - includes the library's acquisition, subscription and licensing costs. As an alternative, a library might decide to include pay-per-view and electronic document delivery costs with the costs of collection building. This should be stated clearly when publishing or comparing scores.

Total acquisitions expenditure would exclude expenditure on binding.

Expenditure on infrastructure, such as hardware, software or networking, and on digitisation of documents should not be included.

Value added taxes, sales and service taxes or other local taxes are included. Their inclusion may affect international comparisons.

B.1.2.1.4 Method

For a given budget period, determine the library's acquisition, subscription and licensing expenditure (and including, if desired, pay-per-view and electronic document delivery charges) for the electronic collection. If the library joins in consortia or other over-all contracts, only the library's own share in the contractual expenses should be counted. Where electronic versions of documents are acquired in a package with print versions, only the surplus payment for the electronic version should be counted.
The Percentage of Expenditure on Information Provision Spent on the Electronic Collection is

\[ \frac{A}{B} \times 100\% \]

where

- \( A \) is expenditure on the electronic collection
- \( B \) is total expenditure on information provision

Round off to the nearest integer.

**B.1.2.1.5 Interpretation and factors affecting the indicator**

The indicator is an integer between 0 and 100.

Comparison over time shows the extent to which a library shifts its focus to electronic information. However, differences in pricing structures between printed and electronic resources have considerable effects on comparisons over time.

The indicator must be judged against mission and objectives of the library. Collection policies, the structure of the population and especially the subjects collected by the library can greatly influence the score.

The indicator should therefore not be used by itself, but in conjunction with indicators of collection use and user satisfaction.

**B.1.2.1.6 Source** (see Bibliography)

[1] Equinox PI 11

**B.1.2.1.7 Related indicators**

Percentage of Staff Devoted to IT Services; Percentage of the Population Reached by Electronic Services

**B.1.3 Retrieving documents**

**B.1.3.1 Number of Documents Downloaded Per Session**

**B.1.3.1.1 Objective**

To assess whether users find items of interest in an electronic resource.

**B.1.3.1.2 Scope**

All libraries.

**B.1.3.1.3 Definition of the indicator**

The number of documents and entries downloaded in part or in whole from each electronic resource, divided by the number of sessions on each service during a specified time period.
Use of electronic resources by library staff and for user training is included as well in the number of sessions as well as in the number of documents and entries downloaded.

**B.1.3.1.4 Method**

Count the number of documents and entries downloaded from each electronic resource during a specified time period and divide it by the number of sessions on the same resource during that time period.

The Number of Documents Downloaded Per Session is

\[
\frac{A}{B}
\]

where

- \( A \) is the number of documents or entries downloaded from a specified electronic resource during a specified time period
- \( B \) is the number of sessions on the same electronic resource during that time period.

**B.1.3.1.5 Interpretation and factors affecting the indicator**

The indicator is a real number with no top limit.

The indicator may be affected by several factors, some outside the control of the library. Examples are: the level of users' skills, the level of network access, whether or not fees are charged for access or downloading, and the promotion of services.

The number of documents downloaded could be affected by the quality and efficiency of users' search strategies.

It is not recommended that the data should be used to obtain a global figure for all services, as services deliver different types of document, e.g. some deliver full text, some citations. However, the data obtained for particular services may be compared. If libraries want to use indicators like

- sessions per database
- documents downloaded per electronic journal, digital document, or database

these can be derived from the data elements used for the indicator Documents Downloaded per Session.

**B.1.3.1.6 Source** (see Bibliography)

[1] Adapted from Equinox PI 4

**B.1.3.1.7 Related indicator**

Cost per Document Downloaded

**B.1.3.2 Cost per Database Session**

**B.1.3.2.1 Objective**
To assess the contractual costs of a database related to the number of sessions.

**B.1.3.2.2 Scope**

All libraries

May be used for comparisons over time, to other databases or the same database in another library if differences in collection policies and socio-economic factors in the population are taken into account.

**B.1.3.2.3 Definition**

The cost of each database divided by the number of sessions during a specified period.

The cost of a database is the acquisitions, subscription or licensing costs paid by the library. Pay-per-view costs are not included in this definition, as the costs per session are evident.

This indicator applies only to priced databases.

**B.1.3.2.4 Method**

For each database the costs during a specified period (usually a full financial year) are divided by the number of sessions during that period. If the time periods between costs and sessions measured differ, they should be normalised.

For multiple databases comprised of several individual databases further information should be provided as to the separate databases.

Sessions by library staff and for user training should be included in the number of sessions.

Electronic versions of titles acquired in a package with the print versions should be excluded if cost per use can not be clearly separated. The costs of databases acquired by bulk purchase should be allocated pro rata.

The Cost per Database Session is

\[
\frac{A}{B}
\]

where

- \(A\) is contractual cost of each database for a specified period
- \(B\) is number of sessions on each database during the same period

Round off in the manner customary with the currency used.

**B.1.3.2.5 Interpretation and factors affecting the indicator**

The indicator is a real number with no top limit. The normal range will depend on the currency used.
A lower value indicates cost efficiency for the database. This should, however, be considered in conjunction with the impact value of the database, especially with the number of documents or entries downloaded per session.

Data of sessions will not be readily available in all cases. Vendors may deliver differing or incomplete data. In some cases, several users one after the other might make use of the same established connection.

User surveys or interviews can be used to validate the value of the indicator.

The indicator should not be used by itself, but in conjunction with the indicator Cost per Document Downloaded and with user satisfaction surveys. If libraries want to use indicators like

- sessions per database
- documents downloaded per electronic journal, digital document, or database

des these can be derived from the data elements used for the indicator Documents Downloaded per Session.

B.1.3.2.6 Source (see Bibliography)

[1] Equinox PI 5

B.1.3.2.7 Related indicators

Cost per Document Downloaded; Cost per Loan [ISO 11620:1998, B.2.4.4]

B.1.3.3 Cost per Document Downloaded

B.1.3.3.1 Objective

To assess the contractual cost of an electronic resource related to the number of documents or entries downloaded.

B.1.3.3.2 Scope

All libraries.

May be used for comparisons over time, to other electronic resources or the same resource in another library if differences in collection policies and socio-economic factors in the population are taken into account.

The indicator only applies to priced electronic resources.

B.1.3.3.3 Definition

The costs of each electronic resource divided by the number of documents or entries downloaded in part or in whole from that electronic resource during a specified period.

The cost of an electronic resource is the acquisitions, subscription or licensing cost paid by the library for that resource. "Pay per download" costs are not included in this definition as the costs per download are evident.

For the purpose of this indicator, an entry in an electronic resource or database is a downloadable information entity consisting of one or more data files, the essential information usually being full text. Downloading is achieved by requesting a document from a server, usually by means of a web browser.
B.1.3.3.4 Method

For each electronic resource the cost during a specific period (usually a full financial year) is divided by the number of downloads during that period. If the time periods between costs and sessions measured differ, they should be normalised.

The time periods of cost and downloads measured should be normalised.

Downloading or viewing by library staff in user training should be included in the number of downloads.

Electronic versions of documents acquired in a package with print versions should be excluded if costs per use cannot be clearly separated. The costs of resources acquired by bulk purchase should be allocated pro rata.

Cost per Document Downloaded is:

\[
\frac{A}{B}
\]

where

\[A\] is contractual costs of each electronic resource for a specified period.

\[B\] is number of documents or entries downloaded from each electronic resource during the same period.

Round off in the manner customary with the currency used.

B.1.3.3.5 Interpretation and factors affecting the indicator

The indicator is a real number with no top limit. The normal range will depend on the currency used.

A lower value indicates cost efficiency for electronic resources. This should, however, be considered in conjunction with the demand for the resource, especially with the number of sessions.

Depending on the users’ browser cache configurations and use of proxy servers, the number of documents downloaded indicated by server statistics will usually be lower than the real number. User surveys or interviews might validate the value of the indicator.

The indicator should not be used by itself, but in conjunction with the indicator Cost per Database Session and with user satisfaction surveys. If libraries want to use indicators like

- sessions per database
- documents downloaded per electronic journal, digital document, or database

these can be derived from the data elements used for the indicator Documents Downloaded per Session.

B.1.3.3.6 Source (see Bibliography)

[1] Equinox PI 6

B.1.3.3.7 Related indicators
Cost per Database Session; Cost per Loan [ISO 11620:1998, B.2.4.4]

B.1.3.4 Percentage of Rejected Sessions

B.1.3.4.1 Objectives

To establish whether there are sufficient licenses for each electronic database to meet users’ demands.

B.1.3.4.2 Scope

All libraries with licensed electronic databases.

B.1.3.4.3 Definition of the indicator

The percentage of rejected sessions of the total attempted sessions for each licensed database during a specified time period.

Sessions by library staff and for user training should be included.

Sessions rejected because of incorrect passwords or user ID’s are not included.

B.1.3.4.4 Method

Count the total number of attempted sessions on a database and the number of unsuccessful attempts during a specified time period.

The Percentage of Rejected Sessions is

\[
\frac{2.1.1.1.1 \times 100}{B}
\]
where

\[ A \text{ is the number of rejected sessions on a licensed database during a specified time period} \]

\[ B \text{ is the total number of rejected and successful sessions on the electronic service during the same time period} \]

**B.1.3.4.5 Interpretation and factors affecting the indicator**

The indicator is an integer in the range of 0 to 100. A high score indicates that the number of licenses is not adequate to users’ needs.

The indicator should be considered separately for each database. There is nothing to be gained by calculating a global figure for all databases.

**B.1.3.4.6 Source** (see Bibliography)

[1] Equinox PI 10

**B.1.3.4.7 Related indicator**

Required Titles Availability [ISO 11620:1998, B.2.2.2]

**B.1.3.5 Percentage of Remote OPAC Sessions**

**B.1.3.5.1 Objective**

To establish the amount of use made of OPACs from outside the library building or buildings.

**B.1.3.5.2 Scope**

All libraries with an OPAC that can be accessed remotely.

**B.1.3.5.3 Definition of the indicator**

The percentage of sessions on the OPAC which originated from outside the library during a specified time period.

**B.1.3.5.4 Method**

Count the number of remote sessions on the OPAC and the total number of sessions on the OPAC during the specified time period.

The Percentage of Remote OPAC Sessions is

\[ \frac{A \times 100}{B} \]
where

\[ A \] is the number of remote sessions on the OPAC
\[ B \] is the total number of sessions on the OPAC.

Round off to the nearest integer.

**B.1.3.5.5 Interpretation and factors affecting the indicator**

The indicator is a real number between 0 and 100. A higher score indicates that a large number of the library’s population requires or desires access to services from outside the library. This may affect the library’s planning in terms of the priority given to services to ‘remote’ users compared to services for ‘in-house’ users. It will also inform the library when making decisions in terms of access methods.

The indicator will be heavily influenced by the level of access to the network available to the population.

The value of this indicator over time shows the trends in the amount of remote use.

**B.1.3.5.6 Source** (see Bibliography)

[5] p. 79 adapted from "percentage of virtual library visits of all library visits" with reference to methodology described on p. 66-67

**B.1.3.5.7 Related indicators**

Percentage of the Population reached by Electronic Services; Virtual Visits as a Percentage of Total Visits

**B.1.3.6 Virtual Visits as a Percentage of Total Visits.**

**B.1.3.6.1 Objective**

To establish the relationship of remote use of the library to the total amount of use.

**B.1.3.6.2 Scope**

All libraries providing a web site that can be accessed remotely.

**B.1.3.6.3 Definition of the indicator**

The number of visits to the library’s web site from outside the library’s physical premises during a specific time period divided by the sum of the number of visits to the web site and the number of physical visits to the library during the same period.

**B.1.3.6.4 Method**

Identify all sources of visits to the library web site: these may be servers owned by the library, or owned and maintained by another department in the parent organisation, or by an Internet Service Provider (ISP). Using appropriate log analysis software, count the number of visits to the library’s web site during the specified time period, differentiating between those originating from workstations inside the library premises and external ones. Count all visits referred from outside the web site regardless of repetition by individual IP addresses and of the number of pages or elements viewed.

Count the number of physical visits to the library during the same period by the method described in ISO 11620:1998 at B.2.1.3.4

The Percentage of Virtual Visits to Total Visits is
A \times \frac{100}{A+B}

where

A is the number of remote visits

B is the number of physical visits

Round off to the nearest integer

**B.1.3.6.5 Interpretation and factors effecting the indicator**

The indicator is a real number between 0 and 100. A higher score indicates that a large number of the library’s population requires or desires access to services from outside the library. This may affect the library’s planning in terms of the sort of services it offers to ‘remote’ users. It will also inform the library when making decisions in terms of access methods.

The indicator will be heavily influenced by the level of access to the network available to the population.

The value of this indicator over time shows the trends in the amount of remote use. It can usefully be related to the total amount of use of electronic library services to show the relative importance of local and remote use, and their changes over time.

**B.1.3.6.6 Source** (see Bibliography)

[5] p. 79 Adapted from "Percentage of virtual library visits to all library visits"

**B.1.3.6.7 Related indicators**

Library Visits Per Capita [ISO 11620:1998, B.2.1.3]; Percentage of Remote OPAC Sessions

**B.1.4 Enquiry and reference services**

**B.1.4.1 Percentage of Information Requests Submitted Electronically**

**B.1.4.1.1 Objective**

To establish the use made of electronic means for submitting enquiries.

**B.1.4.1.2 Scope**

All libraries.

**B.1.4.1.3 Definition of the indicator**

The number of information requests submitted electronically during a specified time period as a percentage of the total number of information requests received during the same period.

**B.1.4.1.4 Method**
Record all information requests received by all library staff within a representative (sample) period of time, noting the means of submission. As a subdivision count the number of information requests submitted electronically, whether by email to the library’s service points, to individual librarians or through web forms.

Percentage of Information Requests Submitted Electronically is:

\[ \frac{A \times 100}{B} \]

where

- \(A\) is number of information requests submitted electronically during a specified time period
- \(B\) is total number of information requests received during a specified time period

Round off to the nearest integer.

B.1.4.1.5 Interpretation and factors affecting the indicator:

The indicator is an integer in the range of 0 to 100. This figure gives an indication of the extent to which the library’s users are switching to electronic means of communication. A high number may indicate, e.g.

- that a high proportion of the library’s users are comfortable with electronic media and use them to access the library’s services
- that a high number of the users operate at some distance from the library.

The level may be affected by a low level of staffing at the enquiry desk.

A low number may indicate a need for user training or for better promoting an electronic enquiry service. The score can be affected by the usability of the library web site.

B.1.4.1.6 Source (see Bibliography)

[1] Equinox PI 7
[2] p.30 “Percentage of virtual reference transactions to total reference questions”

B.1.4.1.7 Related indicator

Percentage of Population Reached by Electronic

B.1.5 User education

B.1.5.1 Number of User Attendances at Electronic Service Training Lessons Per Capita

B.1.5.1.1 Objective

To assess the success of the library in reaching its users through providing training on electronic services.

B.1.5.1.2 Scope

All libraries with a defined population to be served.
B.1.5.1.3 Definition of the indicator

The number of attendances at user training on electronic services during a specified time period divided by the population to be served.

B.1.5.1.4 Method

Count the number of persons that attend library tuition (and, if applicable, tours of the library) predominantly teaching the use of electronic services during a specified time period (usually one year). These numbers should be cumulated at the end of the period. Count the number of sessions on the library’s (interactive) online training modules predominantly teaching the use of electronic services during the same period. These numbers should also be cumulated at the end of the period. The sum of these numbers is used for the indicator.

The Number of Attendances at User Training on Electronic Services per Capita is

\[
\frac{A + B}{C}
\]

where

- \( A \) is the number of attendances at library tuition (and, if applicable, tours) on electronic services
- \( B \) is the number of sessions on the library’s (interactive) online training modules for electronic services
- \( C \) is the population to be served.

B.1.5.1.5 Interpretation and factors affecting the indicator

The indicator is a real number with no top limit. A higher number shows efficiency in reaching users by training lessons.

The indicator is affected by the amount of training provided by the library and by the level of IT experience in the population. The indicator does not allow evaluation of the quality of the training programme, nor assessment of the optimal expenditure on training activities.

B.1.5.1.6 Source (see Bibliography)

[1] Adapted from Equinox PI 12

B.1.5.1.7 Related indicators

None.

B.1.6 Facilities

B.1.6.1 Workstation Hours Available per Capita

B.1.6.1.1 Objective

To assess the availability of workstations by calculating the average number of hours a workstation could be available for a member of the population during a year.

B.1.6.1.2 Scope

All libraries with a defined population to be served. Comparing libraries may be possible if differences in the mission of the library and the clientele are taken into account. Libraries may make separate calculations for networked and non-networked workstations.
B.1.6.1.3 Definition of the indicator

The number of hours that a workstation is available for a member of the population to be served during a year.

Workstations reserved exclusively for the use of staff are excluded.

B.1.6.1.4 Method

Establish the number of workstations in the library, the number of hours that the workstations are available to users and the number of the population to be served. Make a correction to the number of workstations to allow for the workstations that are not working or being repaired. In order to make this correction, a count should be made at random times throughout a typical working day. The mean number of workstations that are not working should be deducted from the total number of workstations. The number of hours that the workstations are at users’ disposition is usually the same as the number of hours that the library is open.

Workstation Hours Available Per Capita are

\[(A-B) \times C \div D\]

where

- \(A\) is the total number of workstations
- \(B\) is the number of workstations not working
- \(C\) is the number of hours the workstations are available to users during a year
- \(D\) is the population to be served

b) If a part of the workstations are in library areas that have different opening hours, these workstations must be calculated separately.

Workstation Hours Available Per Capita are then

\[
\frac{(A1-B1) \times C1 + (A2-B2) \times C2}{D}
\]

where

- \(A1\) is the total number of workstations in area 1
- \(B1\) is the number of workstations not working in area 1
- \(C1\) is the number of hours the workstations at area 1 are at users’ disposition during a year
- \(A2\) is the total number of workstation in area 2
- \(B2\) is the number of workstations not working in area 2
- \(C2\) is the number of hours the workstations at area 2 are at users’ disposition during a year
- \(D\) is the number of the population to be served.

B.1.6.1.5 Interpretation and factors affecting the indicator
The indicator is a real number with no top limit. The normal range will depend on the type of library. The indicator estimates the mean number of hours that a workstation is available to a person in the population to be served. The higher the number the better the library's ability to cope with demand from users for workstations.

The number of workstations available elsewhere in the institution will have a great affect on the interpretation of this indicator. A low result here may not be so significant if workstations from which library services can be accessed are widely available to users elsewhere.

B.1.6.1.6 Source (see Bibliography)

[1] Equinox PI 9

[3] p.70 adapted from "Hours of availability of open access workstations per student"

B.1.6.1.7 Related indicators


B.1.6.2 Population per Public Access Workstation

B.1.6.2.1 Objective

To assess the availability of workstations the library offers related to the population to be served.

B.1.6.2.2 Scope

All libraries with a defined population to be served. Comparing libraries may be possible if differences in the mission of the library and the clientele are taken into account, and if only the same types of workstations (e.g. with Internet access, stand alone, CD-ROM only, OPAC only) are included in the definition. Libraries may make separate calculations for networked and non-networked workstations.

B.1.6.2.3 Definition of the indicator

The ratio of the population to be served to the number of publicly accessible workstations.

Workstations reserved exclusively for the use of staff are excluded.

Libraries may wish to calculate separately the number of workstations connected to the Internet.

B.1.6.2.4 Method

Establish the number of workstations that are publicly available to users in the library.

The Population per Public Access Workstation is

\[ \frac{A}{B} \]

where

\( A \) is the population to be served

\( B \) is the number of public access workstations

Round off to the nearest integer.

B.1.6.2.5 Interpretation and factors affecting the indicator
The indicator is a real number with no top limit. A low score is regarded as better than a high one. The indicator measures the provision of resources related to the population.

The number of workstations available elsewhere in the institution will have a great affect on the interpretation of this indicator. A high result here may not be so significant if workstations from which library services can be accessed are widely available to users elsewhere.

B.1.6.2.6 Source (see Bibliography)

[2] p.28 adapted from "Public access internet workstations in proportion to the legal service area population"

[3] p.70 adapted from "Number of students to a student workstation"

[4] p.12 adapted from "Total number of electronic workstations available to users per thousand population".

B.1.6.2.7 Related indicators

Facilities Availability [ISO 11620:1998, B.2.9.1], Workstation Hours Available Per Capita

B.1.6.3 Workstation Use Rate

B.1.6.3.1 Objective

To assess the overall rate of use of workstations provided in the library, by estimating the proportion of the workstations in use at any given time.

B.1.6.3.2 Scope

All libraries

Measuring may be carried out at representative times of the day, the week or the year, including peak times or off-peak times, and should be added up to achieve a mean value. Libraries may make separate calculations for networked and non-networked workstations.

B.1.6.3.3 Definition of the indicator

The percentage of workstations in use at the time of investigation.

Workstations exclusively for the use of staff are not included.

B.1.6.3.4 Method

a) The most accurate value will be found by measuring the Workstation Use Rate at random intervals over a period of time and then calculating the mean use rate (using the cumulated sum of the workstations in use, divided by the cumulated sum of the workstations provided, times 100).

Some workstations may offer different electronic library services e.g. OPACs, stand alone CD-ROMs, or Internet only, and these machines may have differing patterns of use and demand. If this is the case it is preferable to calculate this indicator for workstations offering different services separately. If a global figure for all workstations is required this will be the mean of all separate values.

The Workstation Use Rate is

\[ \frac{A \times 100\%}{B} \]

where
A is the number of workstations in use
B is the total number of workstations provided.

Round off to the nearest integer.

b) A less accurate method is to make a survey of the workstations provided at the time specified. Count the number of workstations in use.

The Workstation Use Rate is

\[ \frac{A}{B} \times 100\% \]

where

A is the number of workstations in use
B is the total number of workstations provided.

Round off to the nearest integer.

B.1.6.3.5 Interpretation and factors affecting the indicator

The indicator is an integer in the range 0 to 100. It estimates the probability that a randomly selected workstation is in use at any one time, or at the times specified. A higher number indicates that the workstations provided are being heavily used and may indicate a need for increased resources.

The indicator may be affected by the policy for booking work stations, the connect time, the number of Internet connected work stations, and the availability of printed reference sources that can act as alternatives to electronic sources.

B.1.6.3.6 Source (see Bibliography)

[1] Equinox PI 8
[2] p. 83 "Percentage of public access workstations in use"

B.1.6.3.7 Related indicator

Facilities Use Rate [ISO 11620:1998, B.2.9.2]

B.3 Availability and use of human resources

B.3.1 Staff training

B.3.1.1 Number of Attendances at Formal IT and Related Training Lessons Per Staff Member

B.3.1.1.1 Objective

To assess the improvement of IT skills of library staff by attending training Lessons.

B.3.1.1.2 Scope

All libraries.
B.3.1.3 Definition of the indicator

The number of attendances of staff members at formal IT and related training lessons divided by the total number of library staff (number of persons, not FTE).

In the sense of this indicator, IT and related training covers the development, use and management of library-related soft- and hardware and of electronic library services. Training is organised in pre-planned lessons which can be held in-house or externally and hosted by library staff or external experts.

The indicator also assesses the number of attendances at training lessons.

B.3.1.4 Method

The number of attendance hours at formal IT and related training lessons can be identified by keeping a record of library staff attending these lessons and by counting the hours of duration of these lessons. This number is then divided by the total number of staff members.

Number of Attendance Hours at Formal IT and Related Training Lessons per Member of Library Staff is:

\[
\frac{A}{B}
\]

where:

- \(A\) is number of attendance hours at formal IT and related training lessons during a specified time period.
- \(B\) is total number of staff members.

Round off to the nearest integer.

B.3.1.5 Interpretation and factors affecting the indicator

The indicator is a real number with no top limit. A higher number indicates better qualification in terms of training attended. A lower number may indicate the need to promote staff IT training. A high number of attendances at formal training lessons may, however, involve the same staff member(s). The indicator does not include informal training and can therefore just indicate the average degree of further IT training but cannot provide an exact and overall penetration measure.

B.3.1.6 Source (see Bibliography)

[1] adapted from Equinox PI 12
[2] p. 35 "hours of formal information technology instruction per staff member"

B.3.1.7 Related indicator

Percentage of Library Staff Providing and Developing Electronic Services

B.3.2 Deployment of staff
B.3.2.1 Percentage of Library Staff Providing and Developing Electronic Services

B.3.2.1.1 Objective

To assess the extent to which the library invests human resources in providing technical support for electronic services.

B.3.2.1.2 Scope

All libraries providing electronic services with their own staff. May be used for comparing libraries with the same mission and similar clientele, provided that the same method of measurement has been used.

B.3.2.1.3 Definition

Number of library staff (FTE = full-time equivalent) planning, maintaining, providing and developing IT services and technically developing and improving the library’s web-based services, divided by the total number of library staff (FTE).

Staff in information and help services, in user training dealing with electronic library services and in content-related work on the library’s internet services is excluded.

B.3.2.1.4 Method

The number of library staff (FTE) providing and developing electronic library services is calculated by adding the time spent by all permanent and temporary, including project-based, staff on planning, maintaining, providing and developing IT services and technically developing and improving the library’s web based services.

Since many staff members may contribute time to technical support, data may be collected by sampling. For example, staff may be required to keep work diaries for a day, or for several representative days, and the amount of time spent on technical support can then be calculated as a percentage of the total staff time worked during the sampling period.

The total number of library staff (FTE) is calculated by adding the total full-time equivalent library staff including all permanent and temporary, including project-related employees.

The Percentage of Library Staff Providing and Developing Electronic Library Services is:

\[
\frac{A}{B} \times 100\%
\]

where

- \( A \) is number of library staff (FTE) providing, maintaining and developing IT and/or web-based services
- \( B \) is total library staff (FTE)

Round off to the nearest integer.

B.3.2.1.5 Interpretation and factors affecting the indicator

The value of this indicator is an integer between 0 and 100. The score indicates the priority the library gives to provide and develop its IT and web-based services.

The score may be affected in case any of the above responsibilities have been out-sourced in significant parts or total to staff of an IT department or other external institutions (in return for payment or not). The indicator may be
affected by the size of the library: in small libraries a greater proportion of staff time may be involved in technical support.

**B.3.2.1.6 Source** (see Bibliography)

[1] Adapted from Equinox PI 13

**B.3.2.1.7 Related indicators**

Percentage of Expenditure on Information Provision Spent on the Electronic Collection; Percentage of Population Reached by Electronic Services
Bibliography


