TECHNICAL REPORT

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Information and documentation — Performance indicators for national libraries

Information et documentation — Indicateurs de performance des bibliothèques nationales

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ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

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Foreword

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

In exceptional circumstances, when a technical committee has collected data of a different kind from that which is normally published as an International Standard ("state of the art", for example), it may decide by a simple majority vote of its participating members to publish a Technical Report. A Technical Report is entirely informative in nature and does not have to be reviewed until the data it provides are considered to be no longer valid or useful.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO/TR 28118 was prepared by Technical Committee ISO/TC 46, *Information and documentation*, Subcommittee SC 8, *Quality — Statistics and performance evaluation*.

Introduction

This Technical Report is concerned with the evaluation of the performance of national libraries.

For several years, national libraries have felt the need to get consensus on a common list of relevant performance indicators for assessing the quality and performance of their services. Several groups, e.g. within the IFLA Section of National Libraries and CENL (Conference of European National Libraries), have tried to assess the present use of performance measurement in national libraries and discussed possible performance indicators, preferably using performance indicators in existing handbooks and standards.

The second edition of ISO 11620 (see Reference [5] in the Bibliography) establishes a list of performance indicators for libraries that include performance indicators for electronic library services. ISO 11620 aims at comprising performance indicators for all types of libraries, but does not cover all tasks and services of every type of library. This Technical Report establishes the list of performance indicators that are relevant to the special tasks and services of national libraries.

National libraries have important tasks that differ from those of other libraries, such as the collection and preservation of the national documentary heritage, the publication of a national bibliography and a leading role in international cooperation. Therefore, it is important that performance indicators for national libraries consider topics such as

— the coverage of the national imprint (print and electronic),

— the speed and comprehensiveness of the national bibliography,

— the effort for preserving the national documentary heritage, and

— the international engagement of the library.

National libraries are unique institutions in their countries, and their data are not easily comparable. The main problems for measuring performance in national libraries are the following.

a) National libraries can have several functions (e.g. university and national library, parliamentary and national library).

b) There can be more than one national library in one country.

c) National libraries have no specified clientele or primary user group like public or university libraries. Therefore, output data cannot be set in comparison to “members of the population”.

d) Mission, tasks and functions of national libraries can differ between countries.

This Technical Report selects performance indicators from ISO 11620 that are appropriate to the tasks of national libraries or can be adapted to such tasks. Additionally, it presents new performance indicators that have been used or tested by a national library and that cover the topics not considered in ISO 11620.

This Technical Report provides standardized terminology and definitions for data to be used in the performance indicators. Furthermore, this Technical Report contains concise descriptions of the performance indicators, of the collection and the analysis of data needed, and of examples where the performance indicators have been used.

Annex B describes all efforts of assessing the quality and performance of an institution by starting with the statement of the general mission and tasks established for their national library.

Some national libraries have started creating collections based on national elements found on the Internet. As it is too early to describe performance indicators for this activity, a short overview of methods and quality issues is given in Annex C.

Texts in this Technical Report are partly based on ISO 11620.

Throughout this Technical Report, the names of performance indicators are printed with the first letter of significant words capitalized, e.g. Percentage of the Collection in Stable Condition. This helps to distinguish these names from supporting text.

Information and documentation — Performance indicators for national libraries

1 Scope

This Technical Report establishes the performance indicators for national libraries. It is also applicable to libraries with regional tasks and without a defined population to be served, as many of their evaluation problems correspond to those of national libraries.

The performance indicators are of special interest for comparison over time within the same library. Comparisons between libraries are possible, if differences in the tasks and constituencies of the libraries are taken into account.

This Technical Report does not include performance indicators for evaluating the outcomes or impact of library services either on individuals, on the communities that libraries serve, or on society at this time. Since this is an evolving area of performance measurement for libraries, such performance indicators can be added at a later date.

This Technical Report is not intended to exclude the use of any performance indicators which have not been specified herein.

2 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

2.1
accessibility
ease of reaching and using a service or facility

[ISO 11620:2008, definition 2.1]

2.2
active user
registered user who has visited or made use of library facilities or services during the reporting period

NOTE This can include the use of electronic library services within or outside the library.

[ISO 2789:2006, definition 3.3.2]

2.3
book
non-serial printed document in codex form

[ISO 2789:2006, definition 3.2.5]

2.4
capital expenditure
expenditure which results in the acquisition of, or addition to, fixed assets

NOTE 1 This includes expenditure on building sites, new buildings and extensions, furnishings and equipment for new and expanded buildings, computer systems (hardware and software), etc. When applicable, local and national sales/purchase taxes [e.g. Value Added Tax (VAT)] are included.

NOTE 2 Adapted from ISO 2789:2006, definition 3.5.1.

2.5
closed stacks
stacks normally not accessible to users

2.6
conservation
intervention techniques applied to prevent, arrest or delay deterioration

[ISO 5127:2001, definition 6.1.03]

2.7
content downloaded
content unit that is successfully requested from a database, electronic serial or digital document

[ISO 2789:2006, definition 3.3.3]

2.8
content unit
computer-processed uniquely identifiable textual or audiovisual piece of published work that may be original or a digest of other published work

NOTE 1 Adapted from the definition of “item” in COUNTER code of practice, Release 2:2004.

NOTE 2 Descriptive records are excluded.

NOTE 3 PDF, Postscript, HTML and other formats of the same content unit will be counted as separate items.

[ISO 2789:2006, definition 3.2.9]

2.9
cultural event
event with cultural, literary, educational, or scholarly intent, e.g. exhibitions, author visits, literary discussions, workshops, etc.

NOTE 1 Only events arranged by the library are included. Events inside the library premises organized by institutions outside the library are excluded.

NOTE 2 User training lessons organized by the library are excluded.

2.10
database
collection of electronically stored descriptive records or content units (including facts, full texts, pictures, and sound) with a common user interface and software for the retrieval and manipulation of the data

NOTE 1 The units or records are usually collected with a particular intent and are related to a defined topic. A database can 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.

NOTE 3 A common interface providing access to a packet of serials or digital documents, usually offered by a publisher or vendor, is also to be counted as database. Additionally, the single serials or digital documents should be counted as serials or digital documents.

[ISO 2789:2006, definition 3.2.10]

2.11
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

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

NOTE 2 Items incorporated in databases are excluded.

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

NOTE 4 A digital document consists of one or more content units.

NOTE 5 Adapted from ISO 2789:2006, definition 3.2.12.

2.12
document
recorded information or material object, which can be treated as a unit in a documentation process

[ISO 5127:2001, definition 1.2.02]

NOTE Documents can differ in their physical form and characteristics.

2.13
document processing
everything done to a document after it is acquired by a library, before it is placed on the shelves or, in the case of an electronic document, on the server, including acquisition, descriptive cataloguing, subject indexing, if applicable binding, physical processing, and shelving

2.14
document retrieval
process of recovering specific documents from a store

[ISO 5127:2001, definition 1.2.06]

2.15
download
successful request of a descriptive record or content unit, e.g. for displaying, printing, saving, or emailing

NOTE For web server logs, successful requests are those with specific return codes, as defined by NCSA (National Center for Supercomputing Applications).

[ISO 2789:2006, definition 3.3.4]

2.16
effectiveness
measure of the degree to which given objectives are achieved

NOTE An activity is effective if it maximizes the results it was established to produce.

[ISO 11620:2008, definition 2.14]

2.17
efficiency
measure of the utilization of resources to realize a given objective

NOTE An activity is efficient if it minimizes the use of resources, or produces better performance with the same resources.

[ISO 11620:2008, definition 2.15]

2.18
electronic resource
all resources in electronic form in the library collection

NOTE 1 See also ISO 2789:2006, A.2.3.

NOTE 2 Electronic resources include databases, electronic serials, digital documents, and computer files. Free Internet resources which have been catalogued by the library in its online catalogue or a database are excluded.

2.19
electronic service
electronic library service, which is either supplied from local servers or accessible via networks

NOTE Electronic library services include the online catalogue, the library website, the electronic collection, electronic document delivery (mediated), electronic reference service, user training on electronic services and Internet access offered via the library.

[ISO 2789:2006, definition 3.3.6]

2.20
evaluation
process of estimating the effectiveness, efficiency, utility and relevance of a service or facility

[ISO 11620:2008, definition 2.17]

2.21
full-time equivalent
FTE
a measurement equal to one staff member working a full-time work schedule for one year

EXAMPLE If out of three persons employed as librarians, one works quarter-time, one works half-time, and one works full-time, then the FTE of these three persons would be 0,25 + 0,5 + 1,0 = 1,75 librarians (FTE).

NOTE Not all libraries may use the same number of hours per year to determine an FTE. Thus, any comparative measures between libraries may need to consider any differences in hours.

[ISO 11620:2008, definition 2.21]

2.22
goal
desired state of affairs to be achieved by the implementation of agreed policies

[ISO 11620:2008, definition 2.22]

2.23
home page
page which serves as the visual unit that is displayed when accessing the library's website

NOTE 1 The home page may appear after the redirection through an entry page.

NOTE 2 See ISO 2789:2006, A.5.3.4.

2.24
income generated
income generated by library operations and from fees, charges, subscriptions and donations that is available to the library for expenditure

NOTE See ISO 2789:2006, 6.5.3.

2.25
indicator
expression (which may be numeric, symbolic or verbal) used to characterize activities (events, objects, persons) both in quantitative and qualitative terms in order to assess the value of the activities characterized, and the associated method

NOTE Adapted from ISO 11620:2008, definition 2.23.

2.26
information request
reference enquiry
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

NOTE 1 Adapted from ANSI/NISO Z39.7-2004.

NOTE 2 The information request can also involve recommendations, interpretation, or instruction in the use of such sources.

NOTE 3 One information request may address several questions.

NOTE 4 The request can be delivered personally or by means of telephone, regular mail, fax or electronic media (via email, the library website or other networked communications mechanisms).

NOTE 5 It is essential that libraries do not include directional and administrative enquiries, e.g. for locating staff or facilities, regarding opening times or about handling equipment such as reader printers or computer terminals.

NOTE 6 Enquiries are also excluded, if asked for the purpose of locating items of stock that have already been identified bibliographically.

NOTE 7 Adapted from ISO 2789:2006, definition 3.3.9.

2.27
in-house use
documents taken by a user from open access stock for use on the premises

NOTE In-house use includes browsing at the shelves in the sense of a short investigation of the contents, but excludes looking at the titles only for selecting material.

[ISO 2789:2006, definition 3.3.10]

2.28
ILL
interlibrary lending
loan of a document in its physical form or delivery of a document, or part of it, in copied form, from one library to another which is not under the same administration

NOTE Mediated transmission of documents in electronic form is counted as electronic document delivery.

[ISO 2789:2006, definition 3.3.11]

2.29
library collection
all documents provided by a library for its users

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

NOTE 2 Access rights can 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 online catalogue or other databases of the library. Interlibrary lending and document delivery are 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 cooperative agreement. Free Internet resources which have been catalogued by the library in its online catalogue or a database need to be counted separately.

[ISO 2789:2006, definition 3.2.22]

2.30
library employee
person who works for a library in return for payment

[ISO 2789:2006, definition 3.6.1]

2.31
library website
unique domain on the Internet consisting of a collection of web pages that is published by a library to provide access to the library's services and resources

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

NOTE 2 Excludes documents that fit the definitions of electronic collection and free Internet resources that can be linked from the library website.

NOTE 3 Excludes web services in the library's domain that are operated on behalf of other organizations.

[ISO 2789:2006, definition 3.3.13]

2.32
loan
direct lending or delivery transaction of an item in non-electronic form (e.g. book), of an electronic document on a physical carrier (e.g. CD-ROM) or other device (e.g. eBook reader), or transmission of an electronic document to one user for a limited time period (e.g. eBook)

NOTE 1 Loans include user-initiated renewals as well as registered loans within the library (on-site loans). Renewals need to be counted separately.

NOTE 2 Loans include copied documents supplied in place of original documents (including fax) and printouts of electronic documents made by library staff for the user.

NOTE 3 Loans of documents in physical form to distance users are included here.

NOTE 4 Mediated electronic transmission of documents is counted as electronic document delivery if their use is permitted for unlimited time. This includes transmissions to members of the population to be served.

[ISO 2789:2006, definition 3.3.14]

2.33
mass conservation
simultaneous treatment of a large number of documents by automated conservation techniques

[ISO 5127:2001, definition 6.7.36]

2.34
mission
statement approved by the authorities formulating the organization's goals and its choices in services and product development

[ISO 11620:2008, definition 2.28]

2.35
national bibliography
bibliography in which documents published in a single country are recorded and described

NOTE In some countries, the national bibliography also covers foreign publications relative to the country and also the works by their nationals which are published abroad.

[ISO 9707:2008, definition 2.21]

2.36
national collection
the national library's collection of the national imprint and the national documentary heritage in the form of manuscripts, archival materials, cartographic material, printed music documents, pictures, photographs and audiovisual documents in conventional or electronic format

NOTE Websites can be part of the national collection.

2.37
national imprint
all documents in all formats published in a country

NOTE Includes commercial and non-commercial publications.

2.38
national library
library that is responsible for acquiring and conserving copies of all relevant documents in the country in which the library is located; it can function as a legal deposit library

NOTE 1 Adapted from ISO 5127:2001, definition 3.2.02.

NOTE 2 A national library will also normally perform some or all of the following functions: produce the national bibliography; hold and keep up-to-date a large and representative collection of foreign literature including documents about the country; act as a national bibliographic information centre; compile union catalogues; supervise the administration of other libraries and/or promote collaboration; coordinate a research and development service, etc.

2.39
non-commercial publications
documents in print and electronic format published by non-profit institutions, such as reports, theses and dissertations, conference proceedings etc., often not available through normal book trade channels

2.40
objective
specific target for an activity to be attained as a contribution to achieving the goal of an organization

[ISO 11620:2008, definition 2.29]

2.41
online catalogue
database of bibliographical records describing the collection usually of one particular library or library system

[ISO 2789:2006, definition 3.3.15]

2.42
operating expenditure
ordinary expenditure
expenditure incurred in the running of a library

NOTE Money spent on staff and on resources that are used and replaced regularly. This includes expenditure on employees, rent, acquisitions and licensing, binding, computer network (operations and maintenance), telecommunication, building maintenance, repair or replacement of existing furnishings and equipment, etc. This can also be termed 'current' or 'recurrent' expenditure. When applicable, local and national sales/purchase taxes [e.g. Value Added Tax (VAT)] are included.

[ISO 2789:2006, definition 3.5.3]

2.43
performance
effectiveness of the provision of services by the library and the efficiency of the allocation and use of resources in providing services

[ISO 11620:2008, definition 2.30]

2.44
performance indicator
numerical, symbolic or verbal expression, derived from library statistics and data used to characterize the performance of a library

[ISO 11620:2008, definition 2.31]

2.45
preservation
all measures taken including financial and strategic decisions, to maintain the integrity and extend the life of documents or collections

[ISO 5127:2001, definition 6.1.01]

2.46
publication
document offered for general distribution and usually produced in multiple copies

[ISO 5127:2001, definition 2.1.11]

2.47
rare material
incunabula, books published before 1800, manuscripts (including fragments and rolls, autographs, music manuscripts)

NOTE The definition excludes archives and records concerning private persons, institutions and organizations (collections containing manuscripts, letters, notes, photos, and other material given by bequest to the library or purchased as such by, or on behalf of, the library).

2.48
restoration
actions taken to return a document which has suffered deterioration or damage as closely as practicable to its original state

NOTE In archival restoration, no attempt is made to recreate missing text, etc., and all restoration work is kept clearly evident.

[ISO 5127:2001, definition 6.1.04]

2.49
seat
seat provided for users for reading or studying, whether with or without equipment

NOTE Includes seats in carrels, in seminar and study rooms and the audiovisual and children's departments of the library. Excludes seats in halls, lecture and auditory theatres intended for audiences of special events. Also excludes floor space on which users may sit and similar informal seating.

[ISO 2789:2006, definition 3.4.5]

2.50
special grant
grant of a non-recurrent nature to fund (or partly fund) projects

[ISO 2789:2006, definition 3.5.4]

2.51
stable condition
suitability for use

NOTE Stable material may have some damage but can be used without immediate risk of further damage. Unstable material will be further damaged if used.

2.52
storage
preservation measures for keeping documents under defined conditions and permitting their retrieval or that of the information contained in them

[ISO 5127:2001, definition 6.1.08]

2.53
title
words at the head of a document thus identifying it and normally distinguishing it from others

[ISO 5127:2001, definition 4.2.1.4.01]

NOTE For measuring purposes, “title” describes a document, which forms a separate item with a distinctive title, whether issued in one or several physical units, and disregarding the number of copies of the document held by the library.

[ISO 11620:2008, definition 2.42]

2.54
user
recipient of library services

NOTE The recipient may be a person or an institution, including libraries.

[ISO 2789:2006, definition 3.3.27]

2.55
user training
training programme set up with a specified lesson plan, which aims at specific learning outcomes for the use of library and other information services

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 lessons is irrelevant.

[ISO 2789:2006, definition 3.3.28]

2.56
virtual visit
user's request on the library website from outside the library premises, regardless of the number of pages or elements viewed

NOTE Adapted from ISO 2789:2006, definition 3.3.29.

3 Use of performance indicators

3.1 General considerations

3.1.1 The performance indicators described in this Technical Report can be used effectively in the evaluation of national libraries. In this process, the quality and effectiveness of the services and other activities of the library, as well as the efficient use of the library's resources, are evaluated against the mission, goals and objectives of the library itself.

3.1.2 Performance indicators should be linked to systematic library planning and evaluation. Furthermore, measurement and evaluation processes should take place regularly. The results should be reported so as to support the decision-making processes and to demonstrate how the library fulfils its mission. The fulfilment of the mission can be considered from the point of view of different stakeholders (users, funding institutions, other libraries, or the general public).

3.1.3 As a library planning and evaluation tool, performance indicators have three principal objectives:

a) to facilitate control in the management process,

b) to serve as a basis for reference and for dialogues between library staff, funding bodies, and the user community, and

c) to serve in comparative analysis of the performance of libraries and information services which have equivalent missions or objectives.

3.1.4 In recent years, libraries have been using a wide variety of performance indicators for this purpose. Several performance indicators are being used extensively and thus represent an established practice. Recent years have also seen attempts to consolidate previous research efforts in this field, and both have contributed to the attainment of a consensus among practitioners on a set of performance indicators and how to implement them in the day-to-day life of the library.

3.1.5 There are, and will continue to be, emerging areas of evaluation for libraries. For instance, outcome-based assessments as a response to the need for libraries to demonstrate the value, quality, and impacts of their services have emerged in recent years. Performance indicators for the assessment of a national library's impact or outcome should be included in a future edition of this Technical Report.

3.2 Selection of performance indicators

3.2.1 The performance indicators included in this Technical Report are those seen to be most useful for national libraries, corresponding to the main tasks of national libraries. This Technical Report recognizes that there are different types of national libraries, in different settings, having a range of unique characteristics (structure, funding, governance, etc.), and affected by a number of situational factors that impact on the services and resources that the libraries can provide. Therefore, possibly not all performance indicators in this Technical Report may have the same relevance for all national libraries.

3.2.2 National libraries, in consultation with their funding institutions and relevant authorities, such as the national government, as well as their users and other stakeholders, will need to decide which performance indicators are most appropriate to a particular situation. This decision should be taken in light of the mission, goals and objectives of the library. It is desirable that all interested parties be in agreement on the appropriateness of the performance indicators used.

3.3 Limitations of performance measurement

3.3.1 Optimizing scores on performance indicators

Users of library performance indicators should recognize that it is impossible to achieve optimum scores simultaneously on all performance indicators. For example, a library may achieve a high level of user satisfaction, but incur high staff costs. The scores on performance indicators should be interpreted in the light of what the library intends to accomplish, and not simply in terms of optimizing scores on particular performance indicators.

3.3.2 Degree of accuracy

Care should be taken with the interpretation of results. Lack of precision may occur due to sampling errors, or to subjective aspects of the measuring process or to inadequate time or resources for the measuring process.

NOTE In some cases, a rough estimate is sufficient and to seek greater precision would be a waste of effort.

3.3.3 Linking resources to services

While poor performance may seem to indicate that additional resources may be required to improve library services, this is not necessarily true. In fact, there may not be a strong correlation between resources and the quality of library services provided. The range of staff skills, management approaches, and a variety of other factors, including increased resources, may have different effects on increasing the quality of services at different libraries.

3.3.4 Comparability of performance indicator data

The principal purpose of using library performance indicators is for self-evaluation. This may include comparisons of one year's performance with another, within the same library. A secondary purpose is to encourage meaningful and useful comparisons across different libraries. Standardizing performance indicators and the procedures for collecting those data can assist in that process. However, such comparisons shall always be made with respect to the following for each library:

a) its mission, goals and objectives;

b) its performance with respect to a range of performance indicators;

c) its resources;

d) its user groups;

e) its governance structure;

f) its procedures.

If comparisons of performance indicator scores between different libraries are made, they should be done with considerable care and in full recognition of the limitations of such comparisons.

4 Descriptive framework

4.1 Presentation of the performance indicators

The presentation of the performance indicators in this Technical Report follows the list of the main objectives of national libraries as given in Annex A:

— building the national collection;

— making the services accessible by:

  — cataloguing,

  — quick and easy access,

  — usage,

  — digitization;

— offering reference services;

— building potential for development;

— preserving the collection;

— managing efficiently.

4.2 Description of the performance indicators

4.2.1 General

The characteristics used to describe the performance indicator are given in 4.2.2 to 4.2.8.

4.2.2 Name

Each performance indicator has a unique, descriptive name.

4.2.3 Background

The background statement describes the actual state and importance of the service, activity or aspect the performance indicator is meant to measure.

The statement shows what is regarded as quality in the service, activity or aspect in national libraries and what measures/performance indicators have as yet been used for assessing quality.

4.2.4 Definition of the performance indicator

The definition describes the data that are necessary for the performance indicator and their relation.

Definitions of the data elements, for the most part, are based on ISO 2789. If terms are used in a specified sense in the framework of a performance indicator, the special definition is given.

Unambiguous terms used in the customary sense need not be defined.

4.2.5 Objective of the performance indicator

The objective of the performance indicator indicates what the performance indicator is meant to measure in relation to the library's goals.

It describes what types of services or activities would benefit most from using the performance indicator and limitations in the application of the performance indicator.

It explains under what circumstances comparison of results with other libraries may be possible.

4.2.6 Method(s)

This element describes the way in which the data are collected and results are calculated.

If more than one method has been shown to be effective for the same purpose, several methods are described.

If a measure needs to be repeated to determine the value of the performance indicator, this shall be stated clearly.

If possible, the descriptions of methods shall indicate the effort necessary for preparation, data collection and analysis of results.

4.2.7 Interpretation and use of results

This statement discusses how the results might be interpreted, especially reasons for low effectiveness. It points to difficulties and to circumstances that could affect the results.

The statement names possible reactions to the results in order to achieve better results and explains what other performance indicators might be useful in the same context.

The interpretation statement may include information about the variability to be expected, such as seasonal variations or variations in time of day.

4.2.8 Examples and further reading

References are supplied to document the source of the performance indicator or of similar performance indicators. The description should state clearly whether the performance indicator as described in this Technical Report is a modified version of the performance indicators described in the source documents.

If possible, examples are given of results when using this or a similar performance indicator, in order to show the range of results that may be possible and to help libraries in interpreting their own results.

5 List of performance indicators for national libraries

The list of performance indicators given in Annex A is summarized in Table 1 and cross-referenced with those specified in ISO 11620 which have been adapted for evaluation purposes in national libraries.

Table 1 — Performance indicators' activities

Reference in Annex A	Service, activity or aspect measured	Reference of the performance indicator	Adapted from ISO 11620
A.1	**Building the national collection**	A.1.1 Percentage of National Publications Acquired by the National Library	
		A.1.2 Percentage of Required National Imprint Titles in the Collection	B.1.1.2
A.2	**Making the services accessible: Cataloguing**	A.2.1 Percentage of New Entries in the National Bibliography	
		A.2.2 Percentage of Rare Materials Accessible via Web Catalogues	
A.3	**Making the services accessible: Quick and easy access**	A.3.1 Median Time of Document Processing	B.3.2.2
		A.3.2 Shelving Accuracy	B.1.2.1
		A.3.3 Median Time of Document Retrieval from Closed Stacks	B.1.2.2
		A.3.4 Speed of Interlibrary Lending	B.1.2.3
		A.3.5 Direct Access from the Homepage	
A.4	**Making the services accessible: Usage**	A.4.1 Usage of Foreign Publications Acquired during the Last 3 Years	
		A.4.2 Cost per Download per Electronic Resource	B.3.1.3
		A.4.3 Public Seating Occupancy Rate	B.2.3.1
		A.4.4 Number of Attendances per Cultural Event	B.2.2.5
		A.4.5 User Satisfaction	B.2.4.2
A.5	**Making the services accessible: Digitization**	A.5.1 Number of Documents Digitized per 1 000 Documents in the Collection	
		A.5.2 Percentage of Documents Digitized per Special Collection	
		A.5.3 Number of Content Units Downloaded per Document Digitized	
A.6	**Offering reference services**	A.6.1 Correct Answer Fill Rate	B.3.3.2
		A.6.2 Speed of Reference Transactions	
A.7	**Building potentials for development**	A.7.1 Percentage of Library Staff Providing Electronic Services	B.4.2.1
		A.7.2 Number of Attendance Hours at Formal Training Lessons per Staff Member	B.4.2.2
		A.7.3 Percentage of Library Means Received by Special Grant or Income Generated	B.4.3.1
		A.7.4 Percentage of Staff in National and International Cooperation and Projects	
A.8	**Preserving the collection**	A.8.1 Percentage of the Collection in Stable Condition	
		A.8.2 Percentage of All Materials Needing Conservation/Restoration Treatment that Received Such Treatment	
		A.8.3 Percentage of Storage Space which has an Appropriate Environment	
A.9	**Managing efficiently**	A.9.1 Staff Costs per Title Catalogued	
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		A.9.3 Employee Productivity in Media Processing	B.3.3.4
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Annex A
(informative)

Description of performance indicators

A.1 Building the national collection

A.1.1 Percentage of National Publications Acquired by the National Library

A.1.1.1 Background

One of the main tasks of a national library is to collect the national production of documents in print and electronic form including cartographic and music documents, pictures, photographs and audiovisual documents (in conventional or electronic format).

In most cases, this is achieved through a legal deposit, although legislation in the countries differs as to the coverage of materials and formats and the methods used to ensure the acquisition. National libraries have also started collecting websites by harvesting techniques.

A.1.1.2 Definition of the performance indicator

The percentage of the national imprint in all possible formats that has been acquired by the national library.

The national imprint is defined as all documents of all formats published in the country. This definition includes commercial and non-commercial publications.

Websites are excluded.

Publications that do not fall within the collecting criteria of the library (e.g. posters or exhibition programmes) are excluded.

A.1.1.3 Objective of the performance indicator

To assess to what degree the library covers the national production. The performance indicator shows whether the library has an adequate awareness of and access to commercial and non-commercial institutions producing documents and whether its claiming procedures are effective.

A.1.1.4 Methods

A.1.1.4.1 It is desirable to calculate the performance indicator separately for commercial and non-commercial publications, and within those two categories to calculate it for each type of document and each format separately. Other categories might apply instead of commercial/non-commercial publications, e.g. government and private publications.

A.1.1.4.2 To assess the coverage of commercial publications:

a) Count the number of publications listed in all publishers' catalogues or in a central database of publishers that have been published during the previous three years. Count the total number of these acquired by the national library.

   The Percentage of National Publications Acquired by the National Library is equal to:

$$\frac{A}{B} \times 100$$

where

A is the number of titles published in the previous three years, as listed in publishers' catalogues or a database, that have been acquired by the library;

B is the total number of titles of the previous three years listed in the catalogues or the database.

b) Take a random sample of publishers' catalogues of the previous three years. Count the number of titles and count the number of these that have been acquired by the national library.

The Percentage of National Publications Acquired by the National Library is equal to:

$$\frac{A}{B} \times 100$$

where

A is the number of titles in the sample that have been acquired by the library;

B is the total number of titles in the sample.

Round off to one decimal place.

A.1.1.4.3 To assess the coverage of non-commercial publications: Count the number of titles in a random sample of catalogues and bibliographies (e.g. catalogues of official publications per organization, catalogues of different non-commercial organizations, regional bibliographies) of the previous three years. Count the number of these that have been acquired by the national library.

The Percentage of National Publications Acquired by the National Library is equal to:

$$\frac{A}{B} \times 100$$

where

A is the number of titles in the sample that have been acquired by the library;

B is the total number of titles in the sample.

Round off to one decimal place.

A.1.1.4.4 To assess the coverage of commercial publications and non-commercial publications:

Count the number of publications in the national ISSN and ISBN listings during the previous three years.

Compare with the total number of documents acquired by the national library that have an ISSN or ISBN and were published during the same period. If there is a concordance between the ISSN/ISBN and legal deposit number, this will be easy.

The Percentage of National Publications Acquired by the National Library is equal to

$$\frac{A}{B} \times 100$$

where

A is the total number of titles acquired by the national library;

B is the total number of titles in the source catalogues or bibliographies.

Round off to one decimal place.

This method is less time-consuming, but the results may be biased, if a relevant part of the national imprint is published without an ISSN/ISBN.

A.1.1.5 Interpretation and use of results

The performance indicator shows whether the library has adequate knowledge of the national production and whether its claiming procedures are effective.

The results concerning commercial publications will be reliable as far as publishers' catalogues or a joint publishers' database exist. The results concerning non-commercial publications are reliable per organization if complete and recent catalogues exist. Sources like regional bibliographies will have varying degrees of reliability, depending on the method of compilation.

If the results show a low coverage of the national imprint, actions to be taken could be

— to build and maintain a current database of contacts for publishing institutions,

— to promote the library's task of collecting the national imprint.

The existence of regional libraries in the country that collect the regional imprint can affect the performance indicator. The national library should be in close contact with such libraries.

A.1.1.6 Examples and further reading

The National Library of the Netherlands uses the performance indicator "Publishers' percentage of cover (deposit collection)". The result was 98 % in 2004 and 97 % in 2005 (Koninklijke Bibliotheek, 2005). The library collects commercial and non-commercial publications of the national imprint, delivered on a voluntary basis.

In 2005, the coverage of the deposit collection was examined separately for books with an ISBN, books without an ISBN and current periodicals (Voorbij and Lemmen, 2006 and 2007). A random sample of titles published in 2003 was checked in the first half of 2005. For books with an ISBN, the Dutch ISBN database was used as bibliographic source. The coverage was 95 %. For books without an ISBN, mostly "grey" literature, the Pica database was used. This database holds the records of many academic, special and large public libraries in the Netherlands. The coverage was 70 %. For periodicals, the sources used were a handbook of periodicals in the Netherlands and again the Pica database. The coverage was 94 % and 84 %, respectively.

The National Diet Library of Japan assessed their coverage of national publications published during the year 2005. They counted government and private publications separately. The results are as follows (Tokuhara, 2008):

— government publications (commercial): 89,8 %;

— government publications (non-commercial): 46,0 %;

— private publications (all commercial): 88,0 %.

A.1.2 Percentage of Required National Imprint Titles in the Collection

A.1.2.1 Background

The main task of national libraries is to collect the national imprint, in most cases via legal deposit. The national imprint includes publications in all formats, commercial and non-commercial publications. The collection policies of national libraries differ as to the inclusion of ephemera or web publications. The policy is in most cases regulated by legal statutes.

The collection of the national imprint should be as far as possible comprehensive, if the collection policy does not exclude certain materials. In all probability, its spread of titles will therefore be more than the sum of all other library collections in the country, as it can include national materials that no other library collects.

A.1.2.2 Definition of the performance indicator

The percentage of national imprint titles required by users that have been acquired by the national library.

The national imprint is defined as all documents of all formats published in the country. The definition includes commercial and non-commercial publications.

Websites are excluded.

User requests of a title include loan, interlibrary loan and document delivery requests by individual users or other libraries.

A.1.2.3 Objective of the performance indicator

To assess to what extent national imprint titles in demand by users are owned by the library.

Comparisons between national libraries may be possible, if similar collection policies are followed.

A.1.2.4 Method

Draw a random sample of national imprint titles required by users.

For the purpose of this performance indicator, titles include all types of documents, but not websites. Record for each title in the sample whether the library owns a copy of that title.

The Percentage of Required National Imprint Titles in the Collection is equal to:

$$\frac{A}{B} \times 100$$

where

A is the number of required titles in the sample owned by the national library;

B is the total number of required titles in the sample.

Round off to one decimal place.

It will be useful to evaluate commercial and non-commercial publications separately.

For those two categories, it can also be useful to evaluate each type of document and each format separately.

A.1.2.5 Interpretation and use of results

A high score indicates that the library fulfils its task of collecting the national imprint in a comprehensive way.

A low score indicates an inadequate coverage of the national production by the national library.

Actions to be taken could be

— to evaluate incoming user requests and try to acquire missing items,

— to build and maintain a current database of contacts for publishing institutions,

— to promote the library's task of collecting the national imprint.

The existence of regional libraries in the country that collect the regional imprint can affect the performance indicator. The national library should be in close contact with such libraries.

A.1.2.6 Examples and further reading

No example was found where this performance indicator is used only for the supply and demand for the national imprint. However, a similar methodology is used for measuring the supply and demand for collections that should cover a specified subject or region as comprehensively as possible. For example, the performance indicator was used in the German special subject collections programme. In Germany, the provision of literature and information for research is supported by a system of special collections, where specified libraries build and maintain comprehensive collections of national and foreign literature and information for certain subjects, e.g. biology or history. The German Research Foundation (DFG) supports the system by funding the acquisition of specialized foreign literature. In the evaluation study of 2002, one of the topics investigated was the coverage of foreign literature in the special collections (Universitäts- und Landesbibliothek Münster, 2003). The libraries evaluated the incoming requests in interlibrary lending, considering only titles that should have been acquired by the library according to the coverage of the special collection. The percentage of user requests fulfilled varied between 53 % and 86 %.

The British Library uses the performance indicator “Document supply and monograph lending fulfilment rate” (British Library, 2007). The target for 2005/2006 was 82 %; the actual rate was 80 %. As more researchers use electronic resources, the requests for lending and delivery that the library receives are increasingly concerning hard-to-find materials, so that the fulfilment rate decreased slightly in comparison to previous years. This performance indicator measures all requests, not only those for the national imprint.

A.2 Making the services accessible: Cataloguing

A.2.1 Percentage of New Entries in the National Bibliography

A.2.1.1 Background

Most national libraries publish the cataloguing data of the national imprint in the national bibliography. It is important for access to the national imprint that new publications are acquired and catalogued as soon as possible. Therefore, speed is generally seen as an important criterion of the quality of national bibliographies. “The overall aim of a national bibliographic service should be to ensure good coverage as comprehensively and speedily as possible…” (Bryant, 1989). The International Conference on National Bibliographic Services in Copenhagen formulated as one of its recommendations: “The national bibliography should list material as soon as possible after publication.” (ICNBS, 1998).

A.2.1.2 Definition of the performance indicator

Percentage of new entries in the national bibliography that refer to publications of the last two years.

The performance indicator may be calculated separately for different categories of material.

A.2.1.3 Objective of the performance indicator

To assess the library’s speed of acquisition and cataloguing and therewith the efficiency of its processes.

The performance indicator does not measure the quality of the cataloguing data.

A.2.1.4 Method

For one year, count the number of entries appearing in the national bibliography which were published during that year and the preceding year.

EXAMPLE Entries in the 2006 bibliography that were published in 2005 and 2006.

If it is not possible to collect the data via the automated system, a random sample should be taken.

The Percentage of New Entries in the National Bibliography is equal to:

$$\frac{A}{B} \times 100$$

where

A is the number of new entries for publications of the last 2 years;

B is the total number of new entries in the national bibliography during one year.

Round off to the nearest integer.

A.2.1.5 Interpretation and use of results

The performance indicator is an integer between 0 and 100. A high score would be seen as good. It means that the national library's acquisition and cataloguing processes are efficient.

A low percentage could have a variety of causes:

— the library's claiming procedures for legal deposit titles could be insufficient;

— the library could be aware too late of new publications, especially of non-commercial publications;

— there could be backlogs in cataloguing;

— there could be time delays between cataloguing and insertion of titles into the bibliography.

In the case of low scores, the library should investigate whether its acquisition or cataloguing procedures are at fault. If acquisition seems too slow, the library could try to increase the number and type of sources for the acquisition of legal deposit materials and to improve its relations with publishers. If cataloguing seems too slow, the library should review the workflow for cataloguing.

It should be kept in mind that there are other quality criteria for the national bibliography beside speed. More details as to the quality of the national bibliography can be gained by surveying the main users of the bibliography, e.g. other libraries.

A.2.1.6 Examples and further reading

Several national libraries count yearly the number of new entries in the national bibliography; see for example the British Library and the National Libraries of the Netherlands, France and Finland.

Both the British Library and the National Library of the Netherlands also count the different types of material that have been catalogued during one year.

The German National Library tested the performance indicator for 3 different sections of the German National Bibliography. In 2006, the percentage of new entries (2005 and 2006) was:

— for commercial publications: 91,2 %;

— for non-commercial publications: 78,0 %;

— for doctoral dissertations: 59,7 %.

A.2.2 Percentage of Rare Materials Accessible via Web Catalogues

A.2.2.1 Background

National libraries generally possess considerable collections of rare materials, such as manuscripts, incunabula and rare books. Such collections are sometimes not yet fully catalogued, or the cataloguing data are only searchable via book, card or manuscript catalogues.

Such older catalogues are gradually converted into online catalogues in order to make the titles accessible for everybody via the web.

A.2.2.2 Definition of the performance indicator

Percentage of rare materials in a national library's collection that can be retrieved in the web catalogue(s) of the national library.

In the sense of this performance indicator, rare materials are incunabula, manuscripts and books published before 1800.

NOTE The definition excludes archives and records concerning private persons, institutions and organizations (collections containing manuscripts, letters, notes, photos, and other material given by bequest to the library or purchased as such by, or on behalf of, the library).

The performance indicator may be calculated separately for different categories of material.

A.2.2.3 Objective of the performance indicator

To assess whether the rare collections are accessible via the web. The performance indicator also measures the library's engagement in promoting its rare collection.

A.2.2.4 Method

Count the total number of rare materials in the library's collections. If the real number is not available an estimate should be made.

Count the number of rare materials' cataloguing records that are contained in the library's web catalogue(s).

The Percentage of Rare Materials Accessible via Web Catalogues is equal to:

$$\frac{A}{B} \times 100$$

where

A is the number of rare materials retrievable via web catalogues;

B is the total number of rare materials.

Round off to nearest integer.

The performance indicator may be split up as to materials.

A.2.2.5 Interpretation and use of results

The performance indicator is an integer between 0 and 100.

A high score is considered as good. It means that a high percentage of the rare material is retrievable via web catalogues and therefore can be easily located by users.

If the score is low, the national library could, for example, initiate projects for retrospective cataloguing of rare materials directly into the web catalogues.

A.2.2.6 Examples and further reading

National libraries are trying to make rare materials that are only searchable in traditional catalogues more accessible. Such projects are often mentioned in the annual reports.

The titles are either included in the main online catalogue of the library, or there are separate web catalogues for specified groups of rare material. The national library sometimes also has the responsibility for the national database of incunabula or manuscripts.

The British Library is cataloguing rare materials in The English Short Title Catalogue (ESTC) which lists over 460 000 items published between 1473 and 1800. The material in the ESTC is for the most part from the collections of the British Library, but a number of the titles are from other libraries.

The online Manuscripts Catalogue, also found at the British Library, offers a single means of access to the mainstream catalogues of the British Library Department of Manuscripts.

The Bavarian State Library holds 91 400 medieval manuscripts and 19 900 incunabula. At the end of 2007 all incunabula and 31 640 medieval manuscripts were catalogued in web catalogues. Thus, all in all, 46,3 % of these rare materials are catalogued electronically.

In 2004 the National Library of the Netherlands started a three-year project for completing and digitizing the records of its manuscript collection (Koninklijke Bibliotheek, 2004).

A.3 Making the services accessible: Quick and easy access

A.3.1 Median Time of Document Processing

A.3.1.1 Background

The background processes in a library are important for the delivery of library services. Their quality can be expressed by measures such as accuracy and speed. As the processing, i.e. acquisition and cataloguing, of new documents is a process that occurs in all libraries, it has proved convenient to evaluate the effectiveness of background services by the example of media processing.

Processing procedures include acquisition, descriptive cataloguing, subject indexing, binding (if applicable), physical processing, and shelving.

In many libraries acquisition and cataloguing processes are now combined in a media processing department and will be carried out in one operation.

In some libraries, activities for catalogue enrichment, such as adding content tables, summaries or book jacket texts, may be included in the processing.

A.3.1.2 Definition of the performance indicator

Median number of days between the day a document arrives at the library and the day it is available for the user on the shelf or in electronic form on the server.

A.3.1.3 Objective of the performance indicator

To assess whether the different processing procedures are effective as to speed. The performance indicator is especially useful for monographs. It can be applied to different types of documents or different subjects.

Comparisons between libraries are possible, but only if differences in mission affecting the level of descriptive cataloguing, subject cataloguing, binding policies, etc., are taken into account. When interpreting the results, differences in computerization and the use of copy cataloguing should be given special attention.

A.3.1.4 Methods

A.3.1.4.1 The period used for measurement (e.g. one month) is fixed by the user of the performance indicator. Collect data on documents arriving in the library during the specified period. Keep logs, either by a computerized library system or by a log sheet accompanying the document through the process.

For each document the exact dates of all stages of processing should be logged:

— receipt, including administrative process;

— cataloguing/metadata tags (including catalogue enrichment activities, such as adding content tables or book jacket texts);

— subject cataloguing/metadata tags;

— physical processing (stamping, labelling, bar-coding, applying a magnetic strip);

— bindery preparation;

— binding;

— shelving or installation on the server.

For electronic documents, the end of processing will either coincide with cataloguing, when the URL for a document on an external server has been added, or with the installation of the document on the library's server or on the server of a partner institution and the URL being added in the catalogue.

For each title, calculate the number of days between arrival and availability. Rank the titles according to the number of days elapsed.

The Median Time of Document Processing is the number of days that is in the middle of the ranking list.

If the number of titles is even, the Median Time of Document Processing is equal to

$$\frac{A+B}{2}$$

where A and B are the two values in the middle of the ranking list.

Round off to the nearest integer.

Special processing procedures for different documents (e.g. rush procedures, rare documents, gift and exchange documents) should be analysed separately. The median time of each stage of processing can be calculated in the same way.

A.3.1.4.2 The period used for measurement (e.g. one month) is fixed by the user of the performance indicator. Collect data on documents which complete their processing in the library during the specified period. Inspect the documentation or computer files to determine the dates of

— receipt, including administrative process;

— completion of cataloguing/metadata process;

— completion of subject cataloguing/metadata process;

— physical processing (stamping, labelling, bar-coding, applying a magnetic strip);

— completion of bindery preparation;

— completion of binding;

— shelving or installation on the server.

For each title, calculate the number of days between arrival and availability. Rank the titles according to the number of days elapsed. The Median Time of Document Processing is the number of days that is in the middle of the ranking list.

If the number of titles is even, the Median Time of Document Processing is equal to

$$\frac{A+B}{2}$$

where A and B are the two values in the middle of the ranking list.

Round off to the nearest integer.

This method requires detailed records to be kept for all material received at the library.

Special processing procedures for different documents (e.g. rush procedures, rare documents, gift and exchange documents) should be analysed separately. The median time of each stage of processing can be calculated in the same way.

A.3.1.5 Interpretation and use of results

The performance indicator is an integer with no upper limit.

Where data for all stages of processing have been collected, the performance indicator could point to

a) failures in the sequence of procedures;

b) delays due to stockpiling (backlogs);

c) delays due to overload.

Possible management decisions based on the results could be:

— streamlining the process;

— forwarding documents to the next department at shorter intervals;

— integrating accession and cataloguing activities;

— additional assignment of staff.

A.3.1.6 Examples and further reading

The performance indicator was described in the IFLA guidelines for performance measurement in 1996 (Poll and te Boekhorst, 1996, pp. 81-83).

In the spring of 2001, the Carnegie Mellon University Libraries' cataloguing staff monitored the amount of time required to catalogue materials from receipt in the Acquisitions Department to shelf-ready status and the factors affecting cataloguing time (Hurlbert and Dujmic, 2004). They designed a survey sheet to record detailed information, such as the date an item was received in the Acquisitions Department, the date an item was catalogued or the time spent cataloguing. They found that 75 % of all materials and 72 % of monographs were catalogued within seven weeks of receipt; that 82 % of all items and 83 % of monographs were catalogued in under 15 min; and that 56 % of all materials as well as just monographs were processed within 1 d to 5 d and the other 14 % were done within 6 d to 10 d.

In spring 2004, the Technical Services area at East Carolina University's Joyner Library (Dragon and Barricella, 2006) conducted a time-and-path study of materials moving through the area from receipt until they were ready for the shelf, as the first step in an ongoing self-assessment process. Data were gathered using flags placed in materials. The first goal of the study was to find out how long items take to move through

Technical Services from receipt to being wheeled out to Circulation for shelving. The results showed a processing time average of 45 d for firm order books and of 38 d for PromptCat books.

One of the most recent experiences in this field is the study by the Library Technical Services of Cornell University Library measuring the time required to acquire, pay for, catalogue, and physically process new print materials for its collections (Banush, 2006). They found that over 80 % of newly received titles were catalogued within a month; about 74 % of all items studied were bound, labelled and ready for circulation within 25 working days; books took on average just over 1 d to reach physical processing or preservation from cataloguing; and the average time span between completion of cataloguing and an item being sent to access services was about 6 d.

Another recent survey was conducted in the University and Regional Library Münster, Germany (results not published). During one month in 2007, 1 146 new monographs were checked as to processing time, from the arrival in the library to availability on the shelves. The results were:

a) for rush procedure: 4 d;

b) for normal purchased monographs: 8 d;

c) for legal deposit of the region: 11 d.

The library has an average of 80 % copy cataloguing in descriptive cataloguing.

The National Diet Library of Japan included among its service standards for 2006 the goal to produce bibliographic data for more than 90 % of newly acquired domestic publications (except for non-book materials) via the legal deposit system:

— within 50 d to be included in the Japanese National Bibliography Weekly List on the NDL website,

— within 65 d to be accessible on the NDL-OPAC.

The results in 2006 were 96,1 % for the first goal and 98,8 % for the latter.

The Library and Archives Canada differentiates between full, core, minimal and abbreviated levels of cataloguing. Their goal is to process and catalogue 90 % of incoming priority 1 and 2 material within 10 working days of receipt and 60 % of all other Canadiana within 3 months of receipt (2006).

A.3.2 Shelving Accuracy

A.3.2.1 Background

Libraries are keystone knowledge repositories for our communities, universities and global society. To maximize the availability of library resources to users, the resources should be organized in a logical system and maintained according to that system. Correct shelving is indispensable for quick access to the collection by users or staff. Incorrect shelving will not only directly affect user satisfaction, but will also be the cause of much unnecessary effort in the library for finding the missing items.

Shelving accuracy and speed of reshelving have been incorporated into goals and service level agreements of all types of libraries and also of national libraries.

A.3.2.2 Definition of the performance indicator

The percentage of documents recorded in the library's catalogue(s) that are in the correct place on the shelves at the time of investigation.

Documents whose absence is accounted for in the library's records, e.g. not arrived from processing, on loan, taken out for bookbinding or repair or noted as missing, are not included in the sample.

As in national libraries the greater part of the collection will be stored in closed stacks, the performance indicator is restricted to closed stacks.

A.3.2.3 Objective of the performance indicator

To assess to what extent documents that are recorded in the library's catalogue(s) are in their correct place on the shelves.

The performance indicator may be used for specified collections, subject areas or branch libraries. For each specified area within the library, the resulting performance indicators can be compared to see if the rate of accuracy differs significantly.

Comparisons between libraries are possible if differences in storage and frequency of use are taken into consideration.

A.3.2.4 Methods

A.3.2.4.1 Check a representative sample of shelves with the help of a shelf-list. For each document in the list, record whether it is shelved correctly. For all missing documents, check whether their absence is accounted for in the library's records.

Documents awaiting shelving should be reshelved before counting.

The Shelving Accuracy is equal to

$$\frac{A}{B} \times 100$$

where

A is the number of documents correctly shelved;

B is the total number of documents in the sample (excluding those whose absence is accounted for in the library's records).

Round off to the nearest integer.

The number of missing documents comprises both documents that have been misplaced and those that are lost, if the latter have not been noted as missing in the library's records. This assumes that correct shelving implies frequent shelf-reading so that losses get noted at an early stage.

A.3.2.4.2 Check a representative sample of shelves in the collection. Count the number of documents on each shelf in the sample. Record all documents that are found in the wrong place, irrespective of their being misplaced near to or far from their correct position.

The Shelving Accuracy is equal to

$$\frac{A - B}{A} \times 100$$

where

A is the total number of documents on the shelves at the time of investigation;

B is the number of misplaced documents on the shelves.

Round off to the nearest integer.

A.3.2.4.3 Another simple method is calculating the performance indicator by using the loan statistics. Record all requests that could not be met because the requested items were absent without due reason.

The Shelving Accuracy is equal to

$$\frac{A-B}{A}\times 100$$

where

A is the total number of requests for loan;

B is the number of requests for loan that could not be met because items were absent without due reason.

Round off to the nearest integer.

NOTE As an estimate, the simpler methods in A.3.2.4.2 and A.3.2.4.3 could be sufficient.

A.3.2.5 Interpretation and use of results

The performance indicator is an integer between 0 and 100. A high score means high shelving accuracy. The shelving accuracy is affected by several factors. The most important are

— the frequency of shelf-reading, and

— the speed of reshelving.

The performance indicator could also point to the classification or other shelf-location system not being transparent and easy to use or to the need for a security system.

For libraries where use varies greatly between parts of the collection, shelving accuracy should be assessed for the different parts of the collection separately, as documents in frequent use will be more liable to misshelving.

A.3.2.6 Examples and further reading

Although shelving is an important task for the effective use of the collection, libraries usually do not collect data about this task. Shelving statistics are not included in national library statistics. However, some studies carried out in the past few years have concentrated on shelving.

At the end of 1999, Leeds Metropolitan, Derby, Staffordshire and Huddersfield University Learning Centres formed a consortium for an initial period of two years with the aim of benchmarking various aspects of the service. The shelving process was one of the aspects which all of the participating libraries were keen to benchmark (Everest *et al.*, 2002). During the academic years 2000/2001 and 2001/2002, the percentage of books that were in the wrong place on the shelves was measured using different sampling methods. The percentage of books in the wrong place on the shelf ranged from 1,6 % to 4,6 % in the seven different sites involved in the project.

Recently, the Central Iowa Library Service Area (2005) recommended establishing standards for shelving library materials. It was noted that libraries which have investigated best practice in this area set accuracy standards of 98 % to 99 %.

The National Diet Library, Japan, assesses shelving accuracy for items requested by users. In 2007, shelving accuracy in the closed stacks was 99,99 % (results not published).

A.3.3 Median Time of Document Retrieval from Closed Stacks

A.3.3.1 Background

Due to their role as custodians of the national documentary heritage, national libraries store most of their collections in closed stacks. In addition, there can be a lack of space, so that some national libraries have had to locate part of their collections in off-site buildings.

In this context, the time spent in fetching materials from closed stacks to be delivered to libraries or users will be crucial for quick and effective access to the collection.

A.3.3.2 Definition of the performance indicator

The median time elapsed between the request for a document placed in closed stacks and the moment it is available to the user inside the library or ready to be dispatched to users or other libraries.

The time interval is measured in library business hours (the hours the library is open for business, excluding weekends, holidays or other days that the library is closed).

A.3.3.3 Objective of the performance indicator

To assess whether the retrieval processes are effective.

Comparing libraries is possible if local circumstances concerning buildings, transportation, etc., are taken into account.

A.3.3.4 Methods

Draw a random sample of documents owned by the library, stored in closed stacks and requested by users or in interlibrary lending and document delivery.

For each request, register the date and time of the day when the request was handed in and the time when the document was ready to be collected by the user or ready to be dispatched to the user or another library. Subtract the starting time from the finishing time, expressed in minutes or hours, as seems most fit.

Requests for documents in off-site storage should be counted separately.

The median time of document retrieval from closed stacks is established by ranking the requests in ascending order by the retrieval time. The median time is the value of the request in the middle of the ranking list. If the number of requests is even, the median time is the average of the two values in the middle of the ranking list, rounded off to the nearest minute.

The sample may be established in the following two ways.

a) The sample is drawn among the titles owned by the library and not on loan. The requests are made by the investigators or their proxies at random times during the sampling period and the time of handing in the request is recorded.

b) The sample is drawn among actual requests at the time when the documents are ready to be collected by the user or ready to be dispatched to the user or another library. The method presumes that the date and time of the request is recorded as part of the normal routine.

NOTE Failed requests are left out of the calculation, since no finishing time can be assigned to a failed request.

A.3.3.5 Interpretation and use of the results

The performance indicator is a real number with no upper limit. The performance indicator is expressed in minutes or hours and minutes.

A short retrieval time is considered good. The retrieval time may be affected by the number of orders at peak times, by storage conditions or shelving accuracy.

If the retrieval time is too long, the library could

— reorganize workflows,

— provide training for the shelving staff,

— increase the number of shelving staff, especially in peak times,

— introduce regular shelf reading in order to achieve high shelving accuracy.

A.3.3.6 Examples and further reading

The performance indicator has been early described by Ward (1995, items F 94, 96, 97, 98) and by Poll and te Boekhorst (1996, pp. 90-93).

The Australian National Library includes among its service standards, the aim to deliver 60 % of items requested from onsite storage areas within 25 min and, in case of material stored in more distant locations onsite, up to 45 min (National Library of Australia, 2004). For items requested from its offsite store, the goal is to deliver 90 % of items within 90 min of courier cut-off times. The outputs included in the library's annual report for the period 2005/2006 show that these Service Charter standards for delivery times from on-site and off-site storage were met or even exceeded.

The Statement of Intent of the National Library of New Zealand for the period 2003/2004 included among its outputs that 90 % of author/title requests for collection items were "completed within 20 min of request or advertized batch times for onsite use and within 48 h for off-site use" (National Library of New Zealand, 2004, p. 50).

The National Diet Library of Japan includes among its service standards several related to the speed of retrieving items from closed stacks in its different sites (National Diet Library, 2006). The results for 2006 were as follows:

a) Tokyo Main Library:

   1) to deliver requested materials from the closed stacks within 25 min at the Book Counter and Periodicals Counter: 95,5 %;

   2) to deliver materials held in the Kansai-kan within 4 working days after receiving the request: 100 %;

b) Kansai-Kan:

   1) to deliver requested materials from the closed stacks within 15 min: 81,5 %;

   2) to deliver materials held in the Tokyo Main Library within 4 working days after receiving the request: 100 %;

c) International Library of Children's Literature: to deliver requested materials from the closed stacks to the Researchers' Reading Rooms I and II within 15 min: 90,2 %.

The British Library's Code of Service to readers and visitors also includes targets related to the delivery time of items stored onsite and offsite (British Library, 2003). In the case of St. Pancras Reading Rooms, London, the codes establish that 90 % of collection items stored onsite will be delivered within 70 min and 90 % of collection items stored elsewhere in London within 3 h. In the case of the Newspaper Reading Room, placed in Colindale, the library will deliver 90 % of collection items stored onsite within 60 min.

The key performance indicators included in the library's annual report for 2005/2006 show that the target for the collection items stored in St. Pancras Reading Rooms was met and even exceeded: the percentage reached was 94 %.

A.3.4 Speed of Interlibrary Lending

A.3.4.1 Background

Resource sharing has become more and more important for libraries in recent years. Rising costs for staff, information technology and journal subscriptions have seriously affected the budget of libraries worldwide. This budget crisis combined with the increasing number of items published and the users' easy access to a growing number of online bibliographic resources make it impossible for any library to serve its users without a comprehensive resource-sharing policy. In this context, interlibrary lending and document delivery is essential for a library's ability to satisfy its users.

As national libraries are in many cases responsible for managing national resource sharing systems, they are increasingly developing strategies, policies and standards for offering more efficient and effective interlending services, both at the national and international level.

The IFLA guidelines for best practices in interlibrary loan and document delivery (IFLA, 2007) recommend that libraries define performance indicators for service levels and turnaround time.

The necessity for performance assessment in interlibrary lending is evident and there is a general agreement in the literature that turnaround time (the time between the initiation and the completion of a request) is one of the primary and most widely used criteria.

A.3.4.2 Definition of the performance indicator

The number of hours required for library staff to complete an interlibrary loan or document delivery request.

A request is complete when the item is sent to the requesting library or directly to the user by the lending library, or when the library/user is notified about delivery not being possible (unavailable for loan, missing, at the binder, etc.).

The time interval is measured in library business hours (the hours the library is open for business, excluding weekends, holidays or other days that the library is closed).

Interlibrary loans or document delivery requests include materials approved for loan or permanent delivery from one library to a library outside of the fulfilling library's administration.

Time received is the date and time the request is received by the lending library.

Time sent is the date and time the item requested was sent to the requesting library or directly to the user, or when the library/user is notified about delivery not being possible (unavailable for loan, missing, at the binder, etc.).

A.3.4.3 Objective of the performance indicator

The performance indicator assesses whether the delivery services are efficiently organized, and what priority the library gives to its role in library resource sharing.

Comparing libraries may be possible if local circumstances concerning buildings, transportation, etc., are taken into account.

A.3.4.4 Method

The Speed of Interlibrary Lending is equal to

$$\frac{A}{B}$$

where

A is the number of hours to complete a specified number of interlibrary loans or document delivery requests;

B is the number of interlibrary loan plus document delivery requests.

Exclude days when the library is closed for business.

Round to the nearest whole number of hours.

Sampling is possible. The recommended method is “typical week.” A “typical week” is a time that is neither unusually busy nor unusually slow. Avoid holidays, vacation periods, days when unusual events are taking place in the community or in the library. Choose a week in which the library is open regular hours.

If the “full count” method is preferred, collect data monthly to reduce the burden on staff when analysing the results.

A.3.4.5 Interpretation and use of the results

The performance indicator is a positive integer with no upper limit.

A lower score is usually considered as good. It will inform the library whether its processes are organized efficiently.

The performance indicator will be influenced by the type of material that is requested and by the form of delivery. The delivery of a document from an electronic resource will be quicker than if an item has to be fetched from the shelves and sent by fax or normal mail.

The performance indicator will also be influenced by internal conditions. Staffing, collection size, days the library may be closed for business, and delivery delays can greatly influence the score.

It will be useful for the interpretation of the results to also consider background data and facts, such as number of requests processed each year, number of items requested from other institutions, whether specific collection formats (e.g., sound recordings, print serials) are available for interlibrary loan, or whether there are charges for interlibrary loan and document delivery.

A.3.4.6 Examples and further reading

Stein (2001) gives a comprehensive overview of literature on evaluation of interlibrary loan and document supply operations from 1987 to 1997.

The National Library of Australia’s Service Charter aims at dispatching items requested within five working days of receipt of request for the standard service or within two hours to two days depending on the level of the priority service required (National Library of Australia, 2004). The Annual Report for 2005/2006 states that this standard has been met (National Library of Australia, 2007).

The library also follows the Australian Interlibrary Resource Sharing (ILRS) Code (Australian Library and Information Association, 2006), that for supplier turnaround time (the time between a supplying library receiving a request and dispatching the item or indicating impossibility of supply) has the following standards:

a) service rush, maximum 24 h;

b) service express, maximum 2 d;

c) service cores, maximum 4 working days.

The National Library of Canada provides two levels of service (Library and Archives Canada):

— basic search: 48 hours turnaround time,

— in-depth search: 2 week turnaround time. It is recommended to choose this level of service if the items are expected to be difficult to locate or require further verification.

The service performance objective in the National Library of New Zealand's statement of intent for the period 2003/2004 is to complete 90 % of bibliographic tracing and international borrowing requests within 15 working days of receipt of request and 100 % within 25 working days of receipt of request.

The National Diet Library of Japan has the service standard to respond to 90 % or more requests for interlibrary loan, either by delivering the requested materials or by explaining the reason for not being able to deliver, within 4 working days after receiving the request. The library also has the service standard for document delivery to respond to 80 % or more requests received via the Internet within 5 working days after receiving the request. The library has evaluated these goals for the last three years and the results for 2006 were 99,4 % for interlibrary loan, and 80,5 % for document delivery. In a sample in September 2006, the medium time for interlibrary loan was 2 d.

A.3.5 Direct Access from the Homepage

A.3.5.1 Background

Most libraries today offer information about their services and access to their electronic resources and services via their website. This is especially important for national libraries, as they do not primarily serve a local, but a national and international clientele, and remote access to their services will be a crucial issue. "Therefore, national library web sites should, in general, offer a wider range of information, consistent with their wider range of activities, as compared to the other types of libraries." (Pisanski and Žumer, 2005, p. 215).

The quality of a library website is determined by its fitness for use. Contents and structure, language and design, navigation tools and accessibility should reflect the needs and information seeking behaviour of the library's population to be served. All these issues taken together constitute the "usability" of the website. Usability is generally defined as "the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use" (see ISO 9241-11:1998). The usability of a website can be evaluated with different methods:

a) Evaluation without user participation:

   In a "heuristic evaluation" a small group of experts evaluates the website, based on the principles of usability. A list of ten such "heuristics" is shown by Nielsen (Nielsen, 1994). In a "cognitive walk-through" experts construct a "user scenario" and perform tasks of an imaginary user.

b) Evaluation with user participation:

   Web surveys and focus groups try to assess user satisfaction and problems in using the website. For national libraries, online surveys sent to special user groups (e.g. libraries or publishers) might be the most effective method. It would be more difficult for national libraries to use tests or observation methods, as their website visitors will mainly consist of remote users. Transaction logs could help to identify most-used pages, ways of searching, etc.

In national libraries it is more difficult than in academic or public libraries to assess user needs, as they do not serve a specified homogeneous population, but have to consider the interests of considerably different client groups: the general public, researchers, libraries, publishers, and visitors of the library premises. The British Library identified five "key audience groups for their marketing strategy": researcher, business, library and information sector, learner, general public (Brindley, 2004). These groups will have different interests and purposes when accessing the library website. While visitors might seek opening hours, directions to the library, and registration options first, researchers will want access to the catalogues and electronic resources or the reference service. Librarians might seek central bibliographic services or document delivery, and publishers will probably be most interested in legal deposit regulations or standard number and cataloguing in publication services. Websites of national libraries should therefore offer a "sign-posting" for the main user

groups. This should at least consider researchers, visitors, librarians/professionals, and publishers, but could also include groups like the media (press), business firms, friends and supporters of the library, or disabled persons.

If English is not the native language of the country, it will be essential to offer an English version of the website, as the tasks of national libraries include the international presentation of the cultural heritage and international cooperation.

The homepage is the most important part of the website, the virtual entrance to the library. The design and contents of the homepage will be decisive for the success of the website visit. High-priority issues should be either visible directly on the homepage or accessible with at best only one click or key stroke. Therefore, quick access to the most-used services and resources via the homepage was chosen as performance indicator for website quality. It is a performance indicator that is applicable for every library homepage, easy to use, and that has an informative content that enables the library to directly take steps for ameliorating access via the homepage.

A.3.5.2 Definition of the performance indicator

The accessibility of the most-used resources and services via the homepage of the library's website, measured by the number of clicks and the comprehensibility of the terms used.

The homepage is the page which serves as the visual unit that is displayed when accessing the library's website. It may appear after the redirection through an entry page.

A.3.5.3 Objective of the performance indicator

To assess whether the homepage leads directly or very quickly, with adequate terminology, to the most frequently needed information and the most-used services and thus serves as a virtual entrance to the library. Speed is measured by the number of clicks necessary to find the services.

Comparison will only be possible between libraries of similar mission and clientele, if a standardized set of resources and services is evaluated.

The performance indicator does not evaluate the design or navigation of the website or the overall content of the website. Neither does it include accessibility for persons with disabilities.

A.3.5.4 Method

The method used is a type of cognitive walk-through. A small group of experts simulates user behaviour when seeking specified information via the homepage.

The first step is to define the services and resources that are most important for the library's clientele. This includes the decision on which terms would be adequate and comprehensible to users when describing the services and resources on the homepage.

National libraries are unique institutions whose mission and goals are influenced by national political issues. Their tasks and user groups may differ. But there are certain main tasks for national libraries (see the mission statement in Annex B) and certain services and resources that will be offered by most national libraries.

The set of main issues for the homepage of national libraries described here should be seen as a prototype that could be adapted to the special situation of a library. Information has been added as to the user groups that would be most interested in each of the issues.

The list was defined after searching 30 websites of national libraries. A survey of the websites of nine European national libraries showed similar results (Pisanski and Žumer, 2005). Generally, national libraries group their information on the homepage as:

— about the library;

— collections;

— catalogues;

— services/use.

But most libraries offer more differentiated information directly on the homepage or when clicking on the broader group. For instance, “catalogues” might be differentiated into general catalogue, special catalogues, national bibliography, and external catalogues.

Methods for searching the website, such as search functions, FAQ (frequently asked questions), sitemap, or A to Z, have not been included in the list, as the question is whether the most-used resources and services can be found directly, not via search functions. The homepage composition for the services and resources that are most important for the library’s clientele are given in Table A.1.

Table A.1 — Homepage composition and significant issues

Main issues	Other adequate terms	Possible general headings	Interested user group
Mission and legal bases	Mandate, main commitments, role of the library, policy, collection policy, legal acts, statutes, duties of the library	About the library	All, especially publishers and libraries
Way to the library	Address, location, visit us, how to reach us, map to library	About the library, contacts, directions	Visitors
Opening times	Opening times, library hours	Visit us	Visitors
Online catalogue(s)	Catalogue(s), OPAC, search (with explanation)	How to find…, finding information, research aids	All
National bibliography		Central bibliographic services, catalogue(s), how to find…, finding information, research aids	All
Lending services	Circulation, loan service, borrowing, how to get a book	Use, services	Local users, visitors
Reference services	E-reference, reference questions, enquiries, ask a librarian, ask the library	Information services	Researchers, librarians
Registration for use	User card, library card, registering, membership, how to join	Conditions for access, use, services	Local and remote users
Interlibrary lending and document delivery	ILL, document supply, electronic delivery	How to get a book, how to get an article, services	Local and remote users, libraries
Reproduction services	Copying services, photographic services, digitization services, microfilming services	Use, services	Local and remote users, libraries
Electronic collection	Electronic library, electronic resources, digital resources, online resources, documents available online	Collection(s), find a journal or article, electronic services, online services	Remote users, librarians
Subject areas	Subject guides, subject resources, browse by subject, information resources by theme	Collection(s), how to find…, finding information, research aids	Researchers
Standards	Standard numbers, ISSN, ISBN …	Services	Publishers, librarians
User education	User training, courses, teaching, library tours, library instruction	Help, services	Visitors, researchers
Projects	Cooperation	Expertise and development	Libraries
News	Events, forum, exhibitions		All
Contacts	Addresses, staff directory	About the library	All

As a second step, the experts test the homepage as to the speed of finding the services/resources and as to the terminology being intelligible and adequate to users. An example of the rating is given in Table A.2.

Table A.2 — Homepage evaluation

Service/resource	Description	Clicks	Points
	Direct information on the homepage, e.g. address, opening times, search box for the catalogue	0	10
	Adequate term on the homepage	1	8
	Adequate term on the homepage	2	6
	Adequate term on the homepage	3	4
	Adequate term on the homepage	> 3	0
	Ambiguous term on the homepage	1	2
	Ambiguous term on the homepage	> 1	0

Only part of the “main issues” will appear directly on the homepage, but they should be only “one click away”. It is irrelevant for the rating whether the topics appear on the homepage in systematic order or in a “quick links” list.

On some homepages, lists of subheadings open directly when the mouse touches the term. This should be counted as one click, though no click is necessary, as the term the user is seeking cannot be identified directly when looking at the homepage.

Terms named “possible general heading” in the lists above and leading to the requested information are rated as adequate language, but the necessary clicks from the general headings should be counted.

The accessibility of the most-used services/information is then calculated by dividing the total number of points by the number of main issues on the list.

A.3.5.5 Interpretation and use of results

The performance indicator is a positive real number between 0 and 10.

A high score would be considered as good. The following actions could be taken in order to achieve a better score.

— Put a link to the most-used services directly on the homepage.

— Change library jargon into user-friendly language: Task-based links like “find books” or “find articles” have proved to be easier to understand than terms like “databases” or “e-journals” (Kupersmith, 2006). Users would probably not click on a link if they do not know what to make of the term.

— Avoid abbreviations the users are not familiar with, e.g. “ILL”.

— Use a consistent set of terms, e.g. not “periodicals” beside “e-journals”.

— Evaluate frequently asked questions and place the topics on the homepage. If a question occurs frequently (e.g. “How can I become a user” or “Where can I find articles”), it may be more effective to have a link on the homepage than to refer the user to “FAQ”.

If the library sees that it takes too many clicks to find the main services, or that the services are not clearly labelled, the performance indicator could be followed up by a user survey in order to find more details about the usability of the homepage.

The problem in offering quick access to the main services via the homepage for all user groups is that the homepage should, on one side, offer all relevant information and, on the other, not be overloaded and confusing. This can be a tightrope walk between conflicting wishes. Information on the homepage should be limited to the necessary.

A.3.5.6 Examples and further reading

Literature on library website design and usability tests is extensive, and several projects in academic libraries have concentrated on the effort and time needed to find specified topics via the homepage.

The number of clicks necessary to find specified information, starting from the homepage, was counted in a project at the State University of New Jersey, US (Jeng, 2005, p. 104). Students were given specified tasks, and the study measured not only the time needed, but also the number of keystrokes, clicks, or movements necessary for completing the task. As the tasks included finding certain journal or encyclopaedia articles, students needed on average between 2 min to 4 min and between 7 to 13 clicks.

The "minimum number of moves" to complete a task was also counted in a usability study at Louisiana State University Libraries (Robins and Kelsey, 2002). The study differentiated between "correct" and "incorrect" moves, where 65 % were rated as correct moves. An interesting result obtained in this study was that for most of the assigned tasks the project staff identified more than one way to navigate to the desired information:

> "In some cases, it was possible to navigate various paths from the libraries' home page to the desired page and still complete the task in the minimum number of moves."

A usability test in the University of Hull, UK, graded the test results by the number of attempts made to find a specific resource or information (Holland, 2005). 49 % of the participants found the information. Library jargon was found to be the main barrier.

A study at the University of Calgary Library, Canada, using the "think aloud" method with 10 test questions, asked also for users' comments on the usability of the website (Hayden *et al.*, 2004). One of the results of this study was that the participants wanted:

> "the most important and most commonly used resources accessible with one click from the first page, ideally from a page that is tailored to their subject needs".

The Swedish National Library tested the performance indicator as described in this International Standard and calculated a score of 7,73. The high score could be due to the website being created by professionals together with librarians.

A.4 Making the services accessible: Usage

A.4.1 Usage of Foreign Publications Acquired during the Last 3 Years

A.4.1.1 Background

The main task of national libraries is to collect the national imprint, in most cases via legal deposit. The national collection usually also includes literature in the national language/s printed outside the country and foreign literature related to the country.

Many national libraries also develop encyclopaedic or specific subject collections without taking into account the country of origin. As the collection of foreign publications is selected deliberately to meet the needs of the library's users, the usage of that collection shows the adequacy of the library's collection policies.

A.4.1.2 Definition of the performance indicator

The total number of loans plus interlibrary loans plus document delivery transactions during the reporting year from the foreign publications acquired during the last three years, divided by the total number of foreign publications acquired during the last three years.

In the context of this performance indicator, foreign publications include all types of documents (books, journal articles, electronic resources).

A.4.1.3 Objective of the performance indicator

To assess to what extent there is a demand for new documents in the foreign publications collection.

A.4.1.4 Methods

A.4.1.4.1 Count the number of loans plus interlibrary loans plus document delivery transactions registered during a year from the foreign publications acquired during the last 3 years (including the reporting year). Establish the total number of foreign publications acquired during the last 3 years.

Usage of Foreign Publications Acquired during the Last 3 Years is equal to

$$\frac{A}{B}\times 100$$

where

A is the total number of loans plus interlibrary loans plus document delivery transactions registered during a year for foreign documents acquired during the last 3 years;

B is the total number of foreign documents acquired during the last 3 years.

Round off to one decimal place.

A.4.1.4.2 Take a sample of foreign documents acquired during the last three years. Establish the number of loans plus interlibrary loans plus document delivery transactions from those documents.

Usage of Foreign Publications Acquired during the Last 3 Years is equal to

$$\frac{A}{B}\times 100$$

where

A is the total number of loans plus interlibrary loans plus document delivery transactions registered during a year for the documents in the sample;

B is the total number of documents in the sample.

Round off to one decimal place.

A.4.1.5 Interpretation and use of results

A high score will be considered as good. It shows the effectiveness of the library's collection policy for foreign publications.

If the usage of foreign publications is low, the following actions might be taken:

— promoting the foreign publications collection;

— evaluating user requests;

— assessing user needs by surveys of individual users or other libraries.

The performance indicator is likely to be influenced by the national library's collection policy and by extensive collections of foreign publications in other libraries of the country.

A.4.1.6 Examples and further reading

The National Library of Finland acquired 42,211 foreign publications during the years 2005-2007. There were 14,338 loans registered for these documents during the same period (results not published).

A.4.2 Cost per Download per Electronic Resource

A.4.2.1 Background

Libraries today are confronted with a general demand for transparency as to costs and quality. Measures of cost-effectiveness are becoming important in library evaluation. Libraries should be able to show that the services they offer are appropriate to their users' needs and that they are delivered cost-effectively.

For the electronic resources that a library provides for its users the cost-effectiveness can be assessed by comparing the cost of an electronic resource to the usage of the resource. The usage could be counted as

— sessions (requests of electronic material), or

— downloads (successful requests of a content unit or descriptive record out of the electronic collection).

A session on an electronic resource shows the user's interest in a topic, while the download of a content unit from an electronic resource shows that the user has found items of interest. The relation of downloads to sessions is somewhat similar to that of loans to browsing. Downloads therefore are preferred as measures for the cost-effectiveness of databases.

A.4.2.2 Definition of the performance indicator

The cost of each electronic resource divided by the number of content units downloaded during a specified period.

Electronic resources in the context of this performance indicator are databases, electronic journals or e-books that the library has bought or licensed.

The cost of an electronic resource is the acquisition, subscription or licensing cost paid by the library. Pay-per-view costs are not included.

A content unit is defined as a computer-processed uniquely identifiable textual or audiovisual piece of published work that may be original or a digest of other published work.

Descriptive records (bibliographic or other individual records in a standard format that reference and/or describe a document or a content unit) are not counted as content units.

A download is defined as a successful request of a content unit, e.g. for displaying, printing, saving, or emailing. For web server logs, successful requests are those with specific return codes, as defined by the National Center for Supercomputing Applications (NCSA).

The performance indicator applies only to priced electronic resources. Resources that are freely accessible on the Internet are excluded.

A.4.2.3 Objective of the performance indicator

The performance indicator assesses the cost-effectiveness of acquiring and licensing electronic resources by relating the costs of each resource to the number of content units downloaded.

The performance indicator is useful for comparisons over time. Comparisons with the same electronic resource in other libraries are possible, if differences in collection policies and conditions of access are taken into account.

A.4.2.4 Method

For each electronic resource the costs during a specified period (usually a full financial year) are divided by the number of content units downloaded during that period. If the time periods between costs and downloads measured differ, they should be normalized.

Data of downloads will not be readily available in all cases. Vendors may deliver differing or incomplete data. If vendors or suppliers deliver statistics that are compliant with the COUNTER code of practice (COUNTER, 2008), these statistics would probably be reliable.

For multiple databases comprised of several individual databases, journals or e-books, further information should be provided as to the separate resources.

Downloads by library staff and for user training should be included in the number of downloads.

The costs of electronic resources acquired by bulk purchase should be allocated pro rata.

The Cost per Download per Electronic Resource is equal to

$$\frac{A}{B}$$

where

A is the cost of the electronic resource for a specified period;

B is the number of content units downloaded from the resource during the same period.

Round off in the manner customary with the currency used.

A.4.2.5 Interpretation and use of results

A lower value indicates cost-effectiveness for the electronic resource. Depending on the users' browser cache configurations and use of proxy servers, the number of content units downloaded indicated by server statistics will usually be lower than the real number.

The number of downloads will be much lower if use of the electronic resource is restricted to access from the library premises.

The performance indicator will be influenced by the number of other libraries in the country offering the same resource.

If the cost per download seem too high, user surveys or interviews might be used for assessing the value of the specified electronic resource to users. The library could also try to promote its electronic resources via its website or public media in order to increase usage.

A.4.2.6 Examples and further reading

Performance indicators for the cost per use of electronic resources were developed in the project EQUINOX that used the performance indicators "cost per session" and "cost per document or entry viewed" (EQUINOX, 2000).

In recent years many libraries have calculated the cost per use for their electronic journals. The results were used mainly for decisions of changing from print to electronic format, for cancellations, or for replacing licenses by pay-per-view options. Some projects have also considered the non-subscription costs of journals like staff costs, equipment, and preservation (see e.g. Franklin, 2005; Montgomery and King, 2002; Obst, 2003; Schonfeld *et al.*, 2004).

A.4.3 Public Seating Occupancy Rate

A.4.3.1 Background

Most national libraries have reading rooms to provide for on-site use of their services. As facilities at reading rooms have limited capacity, it is important to determine whether a library is providing a sufficient number of seats for visitors. Libraries have to strike a balance between an efficient use of their physical premises and provision of facilities that are appropriate to users' needs.

In general, measuring the seat occupancy rate means measuring the probability that a user will find a free seat and therewith the priority that the library gives to its role as a place for reading and studying.

A.4.3.2 Definition of the performance indicator

The percentage of public seats in use at the time of investigation.

The definition includes seats with or without equipment, seats in carrels, in seminar and study rooms and in the audiovisual and children's departments of the library.

Seats in halls, lecture and auditory theatres intended for audiences of special events are excluded. The definition also excludes informal seating, e.g. floor space on which users may sit.

Seats reserved exclusively for the use of staff are also excluded.

A.4.3.3 Objective of the performance indicator

To assess the overall use rate of public seats provided for reading and working in the library, by estimating the proportion of the public seating in use at any given time. This performance indicator shows the value of the library as a physical place.

The performance indicator is valid for all libraries with reading and working facilities.

Measurement may be conducted at specified times of the day, the week or the year, e.g. peak times or off-peak times. This should be stated explicitly when using the performance indicator.

A.4.3.4 Method

Count the number of public seats provided for reading and working, whether with or without equipment, at the time specified.

Count the number of public seats in use. Public seats which show evidence of being used, such as coats, bags, notebooks, etc., placed at seats, are counted as being in use, even if the user is absent.

The Public Seating Occupancy Rate is equal to

$$\frac{A}{B} \times 100$$

where

A is the number of public seats in use;

B is the total number of public seats provided.

Round off to the nearest integer.

The Public Seating Occupancy Rate should be measured at random intervals over a period of time, as the occupancy can vary considerably. The mean occupancy rate for the period can then be calculated in the following way:

$$\frac{A}{B} \times 100$$

where

A is the cumulated sum of the public seats in use;

B is the cumulated sum of the public seats provided.

Round off to the nearest integer.

It can also be informative to calculate the minimum and maximum occupancy rate.

A.4.3.5 Interpretation and use of results

The performance indicator is an integer between 0 and 100. It estimates the probability that a randomly selected public seat is in use at any time, or at the times specified.

A high occupancy rate indicates a need to increase the number of public seats. A low occupancy rate indicates excess capacity.

It should be noted that the occupancy rate can vary by time of day, week or year. It is important that a library accommodates the demand of peak times. In the case of libraries with several reading rooms, differences in occupancy rates can indicate a need to reallocate seats among rooms.

Longer opening hours can contribute to a better distribution of users needing seats over the day/week, so that even with the same number of seats there might be lower seat occupancy.

Occupancy rates do not show whether users feel comfortable with the number of seats provided for them. Satisfaction with seating can also depend on the space allowed for one user working place. The library should therefore also assess user opinion on this topic by satisfaction surveys.

A.4.3.6 Examples and further reading

This performance indicator was introduced in the handbook of Van House, Weil and McClure as a special case of “Facilities Use Rate” (1990, pp. 82-88).

The library of La Trobe University, Australia, has conducted a seating survey every 2 years, measuring the occupancy rate per types of seating (e.g. seats with Internet terminals, seats in the group study rooms) and various days and times (La Trobe University, 2006). The results from 2006 ranged from 0,0 % to 95 %. The highest occupancy rates occur from Monday to Wednesday, and computer workstation seating showed the highest rates.

The statistics of SCONUL, Society of College, National & University Libraries, UK, count the average percentage of seats occupied. For 2004/2005 the mean value was 36 % (SCONUL, 2006).

The report of activities of the Bibliothèque Nationale de France in 2006 shows an increase of the seating occupancy rate from 107 % in 2003 to 110 % in 2006 (Bibliothèque Nationale de France, 2006, p. 93). Occupancy rates over 100 % show that seats were overbooked, or that there were queues waiting for seats.

The main reading room of the Bavarian State Library offers 540 public seats. It is open for the public every day (including Saturday and Sunday) from 08:00 to 24:00. The occupancy rate was counted on every day of November 2007 and was 54 %, which includes the less frequented opening hours in the later evening. During the time span from 12:00 to 16:00, the occupancy was 93 % (results not published).

A.4.4 Number of Attendances per Cultural Event

A.4.4.1 Background

National Libraries hold the documentary collection of national heritage, which includes many unique items like manuscripts, incunabula, and other rare materials. In order to raise the awareness of the library's valuable collection, national libraries organize exhibitions and other events. It is even more important for national libraries than for public or academic libraries to make their collections more widely known to the public, as they are one of the most distinctive and important cultural venues in the country.

In addition, some national libraries have the responsibility to care for the cultural level of the country by promoting national cultural policies and by taking the leadership in national literacy campaigns. Recently such libraries have organized forums or lectures to promote media literacy and computer literacy as well as print literacy.

Accordingly, national libraries organize various events in order to demonstrate their prominence in the country's cultural, intellectual and social life and to foster understanding and enjoyment of the national library and its collections. The quality of such library events and their relevance to the population is shown by the number of participants and by participants' satisfaction.

A.4.4.2 Definition of the performance indicator

The total number of attendances at the library's cultural events during a full year is divided by the number of cultural events.

Cultural events, in the sense of this performance indicator, include events with cultural, literary, educational, or scholarly intent, e.g. exhibitions, author visits, literary discussions, workshops, etc. International events are also included.

Only events arranged by the library are included. Events inside the library premises organized by institutions outside the library are excluded. The definition also excludes user training lessons organized by the library.

Virtual attendances at events like discussions or workshops should be included.

Exhibitions are only included if the library can count the visits to an exhibition separately from the normal visits to the library.

Virtual visits to online exhibitions are excluded.

A.4.4.3 Objective of the performance indicator

To assess whether cultural events organized by the library attract a high number of attendances and therewith promote the library's collections and services.

Comparison between libraries will be difficult, especially if attendances at exhibitions are included.

A.4.4.4 Method

Count or estimate the number of attendances at each library event and cumulate for the year.

Count the number of library events during the year.

The Number of Attendances per Cultural Event is equal to

$$\frac{A}{B}$$

where

A is the number of attendances at the library events;

B is the number of library events.

Round off to the nearest integer.

The performance indicator should be calculated separately for exhibitions and for other kinds of events, as exhibitions might be open over a long time, while other events occupy only a short time, and attendances may be limited by the space in which the events are held.

A.4.4.5 Interpretation and use of results

The performance indicator is an integer with no upper limit.

A high score indicates that the events that the library arranged were appropriate to users.

A low score indicates that the events were not attractive to users. The library should try to attract higher attendance by promoting the events via the media.

The result may be affected by the library's offering the same exhibition as an online exhibition on the web.

A.4.4.6 Examples and further reading

The Swedish Quality Handbook (Edgren *et al.*, 2005) describes the performance indicator "User attendances at library events per capita", which assesses the attraction of library events for the library's population to be served. This, however, is not appropriate for national libraries that have no defined population to be served.

In order to evaluate library events, national libraries have counted the number of cultural events organized by the library (National Diet Library, 2007, and National Library of New Zealand), or the number of participants of library events (National Library of Australia). Some national libraries (National Diet Library Japan and National Library of New Zealand) include the number of events in the service standards. So far this performance indicator, the number of attendances per event, has not been used by national libraries. However, the data elements for the performance indicator can often be found in the annual reports for this performance indicator. For example, the number of attendances per exhibition is as follows:

— in the National Library of New Zealand: 11 263, including touring exhibitions (2007);

— in the National Diet Library: 30 532 (2007).

The Bavarian State Library from 2001 to 2007 counted the number of attendances only for the major exhibitions arranged by the library, not for smaller and short-time exhibitions and not for all other cultural events taking place in the library. From 2001 to 2007 13 major exhibitions took place at the library with a sum total of 78 950 visitors. The average number of attendances per major exhibition was 6 073 (results not published).

As for the outcome of library events, some national libraries assess the participants' satisfaction. The National Library of New Zealand shows 90 % as "percentage client/visitor satisfactions of Exhibitions programme" in their service performance objective for the period 2003/2004. The National Library of Australia assesses the "percentage of visitors to, and/or participants in, public programs activities who are satisfied"; in 2007 the satisfaction rate was 97 %. The British Library states in the annual report 2005/2006 that "exhibition visitors' satisfaction" was 98 %.

A.4.5 User Satisfaction

A.4.5.1 Background

For all types of libraries, the assessment of users' needs and their satisfaction with the collections and services offered is a crucial issue. Users' needs and wishes can for instance be ascertained by the evaluation of usage data or of users' complaints and suggestions. Focus groups and personal interviews can be used for assessing user opinion. For a comprehensive overview, most libraries prefer user satisfaction surveys that ask for the user's satisfaction with the library's services and products. User surveys can be handed out or mailed to a random sample of users, or a web-based survey can be put on the library's website.

User surveys can ask for the following different levels of experience with library services:

— the particular experience and satisfaction with library services during the last library visit or the last use of a library service;

— the long-time experience and satisfaction with all or individual library services;

— the experience and satisfaction compared with the expected quality level.

Satisfaction surveys will assist in adapting a library's services to the needs and interests of the users. They reveal reasons for dissatisfaction and thus help to detect problems and shortcomings in the service delivery.

Designing a user satisfaction survey will be less complicated in libraries with a defined population to be served, as they know the structure and the level of education of their population. National Libraries have no such specified clientele; their services can be used by interested persons worldwide. User surveys for national libraries therefore will have to consider different user groups, e.g.

a) walk-in users;

b) remote users (worldwide);

c) publishers;

d) other libraries that use the national library's services.

To survey remote users, the most useful method is to send questionnaires to those that have registered to use library services.

A.4.5.2 Definition of the performance indicator

The average rating given by users on a numeric scale ranging from very unsatisfactory to very satisfactory expressing their perception of the library services as a whole and of individual services offered by the library.

The numeric scale can have different numbers of points; scales with four, five, seven, nine or ten points have been used. In the description of this performance indicator, a five-point scale is used with 1 as the lowest value.

A.4.5.3 Objective of the performance indicator

To assess the degree to which users are satisfied with the library services as a whole or with different services of the library.

Comparison with other libraries will be possible, if the same survey instrument is used and if differences in the libraries' tasks and user structure are taken into consideration.

A.4.5.4 Method

The library designs a questionnaire that lists the specific services and aspects of services which it wants to evaluate. Special questionnaires should be designed for each user group (e.g. walk-in users, remote users, publishers, or other libraries) that use the national library's services.

A numeric scale, usually a five-point scale, is provided for answering the questions. Space should be given for additional comments.

The questionnaire should be tested by a small sample of users in each user group to see whether the questions are clear and understandable.

If the questionnaire is not sent directly to members of a specified user group, for example publishers or other libraries, questions about user status should be included in the questionnaire in order to differentiate between the needs of the different user groups.

The contents of the questionnaire could be as follows:

a) *User status*, e.g. age group, status (researcher, student, others);

b) *Purpose of library use*, e.g. study, research, professional interests, general interests;

c) *Subject interests*, e.g. medicine, language and literature, philosophy;

d) *Frequency of library use*, e.g. frequency of library visits, frequency of remote use, frequency of use of special services (interlibrary lending, reference, online catalogue, etc.);

e) *Satisfaction* with specified library services and service aspects (on a numeric scale); such services could be:

    1) the collections (differentiated as to print and electronic books and materials, audiovisual materials, national and foreign collections),

    2) studying and reading facilities,

    3) opening hours,

    4) lending service,

    5) interlibrary lending and document delivery,

    6) online catalogue(s),

    7) library website,

    8) reference service,

    9) user training,

    10) exhibitions and other cultural events,

    11) staff (helpfulness, competence).

A random sample of users is then asked to fill out the questionnaire. The data may be collected by a questionnaire handed out in the library to walk-in users, by postal questionnaire, by online questionnaire, or by telephone interview, as appropriate.

The results should be evaluated separately for each service.

The mean User Satisfaction for each service or aspect of service is equal to

$$\frac{A}{B}$$

where

A is the sum of the values for each service indicated by the users;

B is the number of persons answering the questions.

Round off to one decimal place.

A.4.5.5 Interpretation and use of results

High satisfaction rates will be seen as good and can be used as an efficient marketing tool of the library. Low satisfaction with a service points to shortcomings in the service delivery. The open comments of users in the questionnaire can give more information about the reasons for dissatisfaction.

For the interpretation of the scores it will be important to bear in mind that the results are based on the subjective opinion of a random sample of users. Individual circumstances at the time of the survey can influence the answers. Previous experiences of users will influence their expectations and therewith the satisfaction with a library service. If users have no experience of high quality services they may be satisfied with lower quality.

The performance indicator “User Satisfaction” should always be used together with other performance indicators for service quality and with usage statistics for the services that are evaluated.

A.4.5.6 Examples and further reading

Many libraries have developed and used individual satisfaction surveys, but today there are also several options available for standard surveys. An overview of such surveys is given by Creaser (2006).

In academic libraries, the LibQUAL+ survey developed by the Association of Research Libraries has found wide acceptance. The survey asks library users to rate the library services on a nine-point scale as to

— the minimum acceptable service level,

— the desired level,

— the perceived service performance.

In the UK, a standard survey has been developed by SCONUL, Society of College, National and University Libraries. The survey asks not only for the satisfaction with individual services but also for the importance of each service to the user. This supports management decisions, where important services with low satisfaction rates would be tackled first.

In Australia, the Rodski survey, now Insync survey, is used in many libraries. As in the SCONUL survey, it measures satisfaction with performance against importance of the service to the user (Saw and Clark, 2004).

National libraries in most cases have used satisfaction surveys for special subjects or special user groups.

The National Diet Library, Japan, has conducted user surveys every year since 2003. They target on-site users and remote users alternately.

The library uses the following rating:

a) satisfied = 100 points;

b) fairly satisfied = 50 points;

c) not very satisfied = minus 50 points;

d) dissatisfied = minus 100 points.

In the 2006 remote user survey, the average for remote users was 37,7 points (National Diet Library, 2007). For librarians, the average was 56,4 points. Special needs for improvement were identified in the response time of the online catalogue and the reference service and the availability of full-text documents on the Internet.

The British Library (2005) assessed the satisfaction of reading room visitors and found that 95,85 % of readers were either very or quite satisfied with the reading room services.

The National Library of New Zealand (2006) used exit face-to-face interviews in order to assess the demographic structure of the visitors, the object of the visit and the satisfaction with the visit. 87 % of the visitors rated their experience with the library as “very good” or higher.

A.5 Making the services accessible: Digitization

A.5.1 Number of Documents Digitized per 1 000 Documents in the Collection

A.5.1.1 Background

Most national libraries contain a very important documentary heritage collection. An important objective today is to make these collections universally available via digitization projects, for instance cooperative projects like EDL (European Digital Library). At the moment, national libraries concentrate on digitizing copyright free material.

Digitization may have different aims:

— to conserve the original analogue material by substituting a digital surrogate;

— to make the material available for public use.

A.5.1.2 Definition of the performance indicator

The number of documents digitized (by the library itself or other institutions) per year per 1 000 documents in the collection.

An item is only counted as digitized if the complete item has been copied.

Digitization for preservation purposes is included.

Mass digitization is included.

Purchase of electronic copies for replacing print copies is excluded.

A.5.1.3 Objective of the performance indicator

To assess to what extent the library fulfils its task of making the documentary heritage publicly available in digitized format.

A.5.1.4 Method

Establish the number of documents in the library's collection. Count the number of documents digitized out of the collection in the reporting year.

The Number of Documents Digitized per 1 000 Documents in the Collection is equal to

$$\frac{A}{B} \times 100$$

where

A is the number of documents digitized in the reporting year;

B is the total number of documents in the library's collection.

Round off to the nearest integer.

A.5.1.5 Interpretation and use of results

The performance indicator is a real positive integer with no upper limit.

A high score shows the library's commitment to making its collection accessible.

Comparing the results between libraries will be difficult, as the collection size may differ considerably. However, comparison over time and with goals will be important for each library.

The performance indicator will be influenced by national heritage programmes.

A.5.1.6 Examples and further reading

In most national libraries, the digitization policy for the cultural heritage is an important part of the strategic planning. The British Library, in its objectives for digitization, sees digitization as a way to "reflect national and international priorities for wider access to, and enhanced use of, integrated collections of digitized educational, cultural or scientific materials which have a combined value greater than their component parts" (British Library, *Digitisation*). National libraries are often chairing the national projects for the digitization of the national documentary heritage like The Memory of the Netherlands (Koninklijke Bibliotheek, *Strategic plan 2006-2009*).

Several national libraries include digitization statistics in their reports.

The British Library counts the digital images created (23 760 in 2005/2006) which does not reflect the number of documents digitized (British Library, 2007, p. 28-29).

The Bibliothèque Nationale de France each year gives the total number of printed documents available in digitized form (95 798 at the end of 2003, 102 036 at the end of 2004), which means that 6 238 printed documents have been digitized or acquired in digitized formats in 2004 (Bibliothèque Nationale de France, Gallica).

A.5.2 Percentage of Documents Digitized per Special Collection

A.5.2.1 Background

Most national libraries possess special collections that constitute an important part of the national documentary heritage, e.g. collections of one-leaf materials, incunabula or photos, or special subject collections relating to persons or historic events. An important objective is now to make these collections universally available through digitization projects.

A.5.2.2 Definition of the performance indicator

The percentage of documents/objects digitized (by the library itself or other institutions) per special collection at a specified period of time.

An item is only counted as digitized if the complete item has been copied.

Digitization for preservation purposes is included.

A.5.2.3 Objective of the performance indicator

To assess to what extent the library fulfils its task of making its special collections publicly available in digitized format.

A.5.2.4 Method

Establish the number of documents per special collection of the library. Count the number of documents that have already been digitized per special collection.

The Percentage of Documents Digitized per Special Collection is equal to

$$\frac{A}{B} \times 100$$

where

A is the number of documents in the special collection that have been digitized;

B is the total number of documents in the special collection.

Round off to the nearest integer.

A.5.2.5 Interpretation and use of results

The performance indicator is an integer between 0 and 100.

A high percentage will be regarded as good, as it shows the library's commitment to making its collections accessible. The results are not comparable between libraries, as each special collection is unique, but comparison over time and with goals will be important for each library.

A.5.2.6 Examples and further reading

The National Diet Library, Japan, digitizes the documents in its collection that were published during the Meiji (1868-1912) and Taisho (1912-1926) Eras. By 2006, 75 % of the Meiji Era documents and 12,8 % of the Taisho Era documents had been digitized (National Diet Library, *Priority objectives for FY2005 and their evaluation*).

The Bibliothèque Nationale de France gives an actual overview of the digitized documents and the planned programme for digitizing each special collection (Bibliothèque Nationale de France, Gallica).

A.5.3 Number of Content Units Downloaded per Document Digitized

A.5.3.1 Background

Most national libraries conserve a very important documentary heritage collection. An important objective today is to make these collections universally available through digitization projects.

In order to evaluate the success of such measures, the use of digitized material should be assessed.

A.5.3.2 Definition of the performance indicator

The number of content units downloaded per document digitized from the library's collection during a specified period.

For the purpose of this performance indicator, only such digitized documents that are available for public access are considered.

Content downloads are defined as content units that are successfully requested from a database, electronic serial or digital document.

A.5.3.3 Objective of the performance indicator

To assess whether the library has digitized documents that are relevant for its users.

A.5.3.4 Method

Establish the number of documents digitized out of the library's collection and that are available for public access. Count the number of content units downloaded from these documents during a specified time period, normally a year.

The Number of Content Units Downloaded per Document Digitized is equal to

$$\frac{A}{B}$$

where

A is the number of content units downloaded from documents digitized from the library's collection during a specified time period;

B is the total number of documents digitized from the library's collection.

Round off to the nearest integer.

A.5.3.5 Interpretation and use of results

The performance indicator is a positive integer with no upper limit.

A high number of downloads will be regarded as good. It shows that the library has digitized documents that are relevant for researchers or the general public.

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

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

A.5.3.6 Examples and further reading

Specific statistics of content units downloaded per document digitized are not available.

The British Library counts the pages of digitized material in general viewed over the web; 11 942 099 pages. were viewed in 2005/2006 (British Library 2007, p. 28-29).

The Bibliothèque Nationale de France counts the accesses to digitized documents in the Gallica collection, Bibliothèque Numérique de la Bibliothèque Nationale de France. In 2005 there were 1 356 547 accesses to 105 580 documents of Gallica (Bibliothèque Nationale de France, Gallica).

A.6 Offering reference services

A.6.1 Correct Answer Fill Rate

A.6.1.1 Background

In the provision of any reference service (either traditional or digital) the most fundamental and logical goal is that correct answers be given to the reference questions received. The guidelines for information services prepared in 2000 by the Reference and User Services Association (RUSA) state that the library should strive to provide users with complete, accurate answers to reference enquiries regardless of the complexity of those enquiries. However, a review of library literature on the accuracy of reference answers shows that accuracy is much lower than would be expected. Already in 1986, a study by Hernon and McClure stated that reference staff generally answered only 50 % to 60 % of questions correctly, i.e. the famous “55 % rule”, which led to a vehement debate. In this context, measuring the accuracy of answers appears to be crucial for assessing the quality of reference services.

Besides, the information gathered from this measure can also be used to show whether the resources available to reference staff for their work are up-to-date and sufficient (McClure *et al.*, 2002, p. 19).

In the context of national libraries, the study of CENL on performance measurement in European National Libraries (Ambrožič, Jakac-Bizjak and Pečko Mlekuš, 2003) showed that the participating libraries considered this performance indicator the most relevant of the performance indicators included in ISO 11620.

National libraries support librarians and researchers by providing information based on their huge national and international collections that work as backup collections of the country. This performance indicator is even more important for national libraries than for academic or public libraries as it shows the reliability of their reference services as the last resort in the country.

A.6.1.2 Definition of the performance indicator

The number of reference enquiries answered correctly divided by the total number of enquiries handled.

A reference enquiry or information request is defined as 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.

The definition excludes directional and administrative enquiries, e.g. for locating staff or facilities, regarding opening times, about handling equipment such as reader printers or computer terminals, using self-service functions, or locating items of stock that have already been identified bibliographically.

A.6.1.3 Objective of the performance indicator

The performance indicator assesses to what extent reference staff are able to fulfil the primary requirement for a good reference service, namely to provide correct answers to enquiries. It also assesses the priority that the library gives to its reference services.

The performance indicator is relevant for all libraries. Comparison between libraries would only be possible if the same predefined set of reference questions were used.

A.6.1.4 Methods

A.6.1.4.1 Of the various methods used, the so-called unobtrusive test has been most extensively applied and described. It involves compiling a representative set of questions with their answers. These are then used

by proxy users or surrogates to be put to the staff involved in the information service as genuine questions, without the staff being aware that they are being tested. This has the advantage of the service being evaluated under normal conditions. Unobtrusive testing can be used for traditional face-to-face, telephone, or email contacts, as well as for an online reference service. It might be easier to let proxy users put their questions in electronic form.

Libraries that make use of digital reference services should include those transactions in the calculation of this performance indicator.

To obtain valid results:

— the questions used should be chosen with great care; for national libraries this should include questions that are often raised by librarians;

— the proxy users should be chosen to represent as far as possible actual user groups;

— proxy users have to be properly coached on the way in which they should conduct themselves.

NOTE In many cases, it can be difficult to determine the “correct” answer to a question. This can affect the reliability and practicality of this performance indicator.

The Correct Answer Fill Rate is equal to

$$\frac{A}{B}\times 100$$

where

A is the number of enquiries answered correctly;

B is the total number of enquiries handled.

Round off to the nearest integer.

A.6.1.4.2 In order to obtain a more realistic view of reference accuracy, a random sample of actual reference transactions should be used. Reference enquiries that are put via an online reference service should be preferred, as it will be easier to store and follow the reference interview. One reference interview can include several enquiries.

The answers are evaluated by an expert group as to accuracy and completeness. As the correct answers have not been previously established, the degree of accuracy should be rated in a more specified way. The coding is similar to the one used by Dilevko (2000), as shown in Table A.3.

Table A.3 — Rating of answers

Coding	Answer
Complete answer.	Referred to single source, complete and correct answer OR referred to several sources, of which one gave the complete and correct answer.
Partially complete answer.	Referred to single source or several sources, none of which leads directly to answer, but one of which serves as a preliminary source.
Referral.	No direct answer; referred to external specific source, person or institution.
No/incorrect answer.	No answer; no referral (I don't know) OR referred to single inappropriate source OR referred to several inappropriate sources, none of which answers the question correctly.

More detailed subcodes may be assigned for some of the categories if necessary. For example, reasons for no/incorrect answer can be coded as follows:

— tried, but got incorrect answer;

— did not know; sources unavailable;

— unwilling to answer;

— told to telephone or come back.

NOTE The performance indicator can be calculated separately for "complete answers" and for "complete and partially complete answers". Results designated "complete answers" reflect a library policy of directly delivering the information the user asks for. Results termed "complete and partially complete" reflect a library policy of showing the way for finding the information.

The Correct Answer Fill Rate is equal to

$$\frac{A}{B}\times 100$$

where

A is the number of enquiries with complete or complete and partially complete answers;

B is the total number of enquiries handled.

Round off to the nearest integer.

A.6.1.5 Interpretation and use of the results

The performance indicator is an integer between 0 and 100. A high score indicates high accuracy.

It should always be borne in mind that this performance indicator focuses only on one aspect of reference service effectiveness, namely accuracy.

The results are influenced by, for example, the choice of questions, the staff's communication skills and the quality, variety and accessibility of reference works and databases.

The value of the test results can be enhanced by designing the test in such a way that the factors contributing to poor performance or the reasons for failure can be established, or by combining it with other forms of data collection. This should include information on procedures which the staff followed to clarify questions (communication skills), whether details of the source were provided with the answer, if, when no answer could be found, the user was referred elsewhere, and what the attitude of the staff was.

In the context of an online reference service, the performance indicator can provide more useful information about procedures followed by staff and data resources used.

The performance of the reference staff, in respect of correctness, is affected by competing goals of teaching the user how to use the reference sources and of answering the query as quickly as possible.

The level of difficulty of the questions is also relevant. Note that some questions will have alternative answers, or answers which give a choice to the enquirer.

A poor score indicates a need for staff training or for improving accessibility to reference sources.

User satisfaction surveys or interviews can help to assess reasons for low accuracy.

A.6.1.6 Examples and further reading

The library community has been involved in the research and practice of unobtrusive reference service evaluation for about 30 years. Since 1968, when Terence Crowley developed an unobtrusive evaluation technique later revised by Thomas Childers (Crowley and Childers, 1971), many unobtrusive reference studies have been conducted to evaluate the accuracy of the library reference service. The majority of these studies have confirmed the "55 % rule". The mean success rate for 20 studies using unobtrusive testing in public and academic libraries in the United States, Australia and the United Kingdom between 1971 and 1988 was 50,98 % (Burton, 1990).

Over a ten-year period, the Division of Library Development & Services (DLDS) at the Maryland State Department of Education conducted four separate extensive unobtrusive surveys (more than 11 000 questions). In the first survey in 1983, the level of accuracy corroborated the 55 % rule. After training the reference service staff, this rate improved to 77 % in 1986. The 1994 survey corroborated findings from the previous studies (Dyson, 1999).

A study in 104 Canadian academic and public libraries tested a set of questions related to government documents (Dilevko and Dolan, 1999; Dilevko, 2000). 29,3 % of answers were rated as complete, 42,2 % as complete or partially complete. From another point of view, Saxton and Richardson (2002) developed a study based on a random sample of over 3 500 actual reference queries posed by users at 12 different public libraries in southern California. They found that the so-called "55 % rule" had never been tested against a truly representative field sample. In this examination, a panel of reference experts determined that librarians recommended an accurate strategy in response to a user's query in 90 % of cases.

Recently, some studies have evaluated the digital reference service. In the University of Maryland, a pilot study used an unobtrusive survey of online real time (or chat) reference services (Kaske and Arnold 2002). One of the main goals of this study was to see if the "55 % rule" reported in traditional reference services was also true for this new service. A set of 12 questions was posed unobtrusively to a sample of 36 "chat" services and 36 central email services. The number of successfully completed chat sessions was 133; the percentage of correct answers was 55 %. The rate of correctly answered email questions was higher: 60 %.

A.6.2 Speed of Reference Transactions

A.6.2.1 Background

Speed of providing answers in reference transactions, which is often referred to as turnaround time, is another quality aspect for reference services besides the accuracy of answers. The RUSA reference guidelines state that one of the most important factors that the library should emphasize in the evaluation of its information service is response time (RUSA, 2000, section 5.3) and, more specifically, one of the digital reference guidelines (ALA, 2004) says that parameters of time should be determined and announced to both users and staff. In part, user satisfaction depends on receiving an answer within an expected time frame (Saxton and Richardson, 2002). However, libraries have to take care that the speed of answering does not influence the quality of the answers. A study comparing five free digital reference services found that there is often a trade-off between speed of response and quality or accuracy of response (Cloughley, 2004). Therefore, national libraries should assess both speed and accuracy of responses when evaluating their reference services.

The performance indicator is also crucial for assessing the efficiency of reference service management. When improving the efficiency of reference services, libraries should try to reduce reference service costs and/or to save the time of the library user. The time required to respond to reference requests is a necessary component when measuring staff costs or productivity (Whitlatch, 2000).

A.6.2.2 Definition of the performance indicator

The average time required for library staff to complete reference transactions, measured in minutes, hours or days, depending on the type of services.

The time interval is measured in library business hours (the hours the library is open for business, excluding weekends, holidays or other days that the library is closed).

Reference enquiries can concern facts, documents, or advice on sources for the user's subject.

The definition excludes directional and administrative enquiries, e.g. for locating staff or facilities, regarding opening times, about handling equipment such as reader printers or computer terminals, using self-service functions, or locating items of stock that have already been identified bibliographically.

Reference enquiries can be delivered by telephone, mail, electronic means (such as email or web forms) or personally (face-to-face).

A.6.2.3 Objective of the performance indicator

The performance indicator assesses whether reference answers are provided in a timely manner. It can also be used to analyse the effectiveness of processes in reference services.

The performance indicator is relevant for all libraries. Comparison between libraries is possible if a similar type of reference service is provided (e.g. online reference).

A.6.2.4 Method

Draw a random sample of reference transactions. A sample period should be a typical week, which is neither unusually busy nor unusually quiet. Sample periods can be selected from various months throughout the year to offset peak periods and off periods. Exclude days when the library is closed for business. During the sample week, keep a count of the reference transactions on a daily basis (McClure *et al.*, 2002). The transactions should be initiated within the sample week, but completion could take longer.

Record for each transaction the date and time that the library receives a reference enquiry and the date and time that the library delivers the answer to the users. Negative answers (e.g. no source found) are included. The data may be collected by unobtrusive testing sheets. For digital reference transactions, the data can be collected by an electronically generated log.

The time needed for each delivery should be calculated by counting only the business hours of the reference services on the sampling days.

Include all time taken before providing the answer to the user regardless of the actual time spent working on the specific enquiry.

The Speed of Reference Transactions is equal to

$$\frac{A}{B}$$

where

A is the total number of days, hours and minutes to complete the reference transactions in the sample;

B is the number of reference transactions in the sample.

A.6.2.5 Interpretation and use of results

The performance indicator is a positive real number with no upper limit. A lower score is usually considered as good. It may show how well the library's processes are organized.

When interpreting the results of this performance indicator, libraries should pay special attention to the quality of answers. It is not always desirable to have shorter turnaround times because in such cases accuracy may be impeded by speed. When a question is complicated or a user expects a comprehensive answer, longer turnaround time might result in better service for the user.

Some requests may take much longer than others. It is useful to analyse the median speed and the distribution of turnaround times in such cases.

A.6.2.6 Examples and further reading

One of the earlier studies in this field by Hernon and McClure (1986) on government documents reference service used unobtrusive testing. The results showed that 27,9 % of the questions were answered in a maximum of 1 min, while 81,5 % needed no more than 5 min.

The National Library of New Zealand (2007) sets a service standard for the speed of answering reference enquiries. The percentage of reference enquiries answered within 20 working days of receipt was 99 % for the year ending June 2006.

The National Diet Library in Japan also sets a service standard to respond to reference enquiries by mail or fax via libraries within 20 d (including library holidays) after receiving the request. The result for 2006 was 97,6 % (National Diet Library, Service standards FY2006 and their evaluation).

The National Library of Australia's Service Charter includes the standard to respond to 95 % of letter, online and fax enquiries within 5 d and to respond to telephone enquiries within 48 h if they cannot be dealt with immediately. The library, in its Reader Services Policy, has different service levels for the various categories of reference enquiries:

a) short reference enquiries (answered within 2 min to 15 min) and

b) extended reference enquiries (needing approximately 30 min to 1 h).

The Code of Service to readers and visitors of the British Library includes among its targets to respond to all written enquiries within 10 d of receipt.

A.7 Building potentials for development

A.7.1 Percentage of Library Staff Providing Electronic Services

A.7.1.1 Background

Today, all libraries are continuously increasing the range of their electronic services. This means investing both money and time in the new services. A national library, in addition, often has a responsibility towards other libraries to supply them with various electronic services, for example a national catalogue.

The effort in providing and developing electronic services will differ widely between libraries and in each library over time, depending on the nature of special projects and especially on the introduction of new services. However, comparing the percentage of staff invested into electronic services over years and with other libraries can indicate whether the library's system for allocation of staff considers the need for continuous development.

Therefore, the allocation of staff resources to electronic services can be seen as a performance indicator of the library's priority for development.

A.7.1.2 Definition of the performance indicator

The number of full-time equivalent (FTE) library staff planning, maintaining, providing and developing IT services and technically developing and improving the library's electronic services, divided by the total number of FTE library staff.

In the context of this performance indicator, providing electronic services means maintaining and developing the automated library system, the library's web server(s), a depository for electronic publications, the electronic reference system and all other software applications provided for users, and staff taking care of computer hardware (servers, computers, printers and scanners).

Though almost every staff member will be working with or in electronic services, the performance indicator is restricted to staff in the technical development and support of those services.

Staff in information and help services, in acquisition/processing of electronic resources, in digitization of material for the electronic collection, in user training dealing with electronic library services and in content-related work on the library's Internet services are excluded.

A.7.1.3 Objective of the performance indicator

To assess the extent to which the library invests human resources in electronic services and therewith the priority that the library gives to development.

The performance indicator is relevant for all libraries providing electronic services with their own staff. Comparison between libraries with a similar mission is possible, if the same method of calculating staff numbers has been used.

A.7.1.4 Method

The number of 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.

Generally, staff in the library's IT department can be simply counted, as it may be supposed that their work time is spent on maintaining and developing electronic services. The time spent by other staff members on electronic services in the sense of this performance indicator will be best assessed by sampling.

For example, staff may be required to keep work diaries for several representative days, and the amount of time spent on electronic services can then be calculated as a percentage of the total staff work time 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, temporary and project-related employees.

The Percentage of Library Staff Providing Electronic Services is equal to

$$\frac{A}{B} \times 100$$

where

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

B is the total number of library staff (FTE).

Round off to the nearest integer.

A.7.1.5 Interpretation and use of results

The value of this performance indicator is an integer between 0 and 100. A higher score indicates that the library gives a high priority to development.

In case any of the above responsibilities have been outsourced to an IT department or other external institutions (in return for payment or not), this performance indicator should only be applied if the external workload can be quantified accordingly (i.e. as FTE). This amount should be added to both A and B in the formula.

The performance indicator should be seen in relation to the library's tasks, e.g. whether a national library develops and/or maintains electronic services for other libraries in the country.

A.7.1.6 Examples and further reading

The performance indicator was developed in the project EQUINOX (2000).

It is continuously applied in the German benchmarking project BIX for academic libraries.

Results in 2006 showed that on average 7,5 % to 7,9 % of staff were employed in developing and maintaining electronic services (BIX, 2006). Of the libraries joining in BIX, the State and University Library Göttingen, which functions as state library for the region of Lower Saxony, invests 11,5 % of its staff into electronic services.

A.7.2 Number of Attendance Hours at Formal Training Lessons per Staff Member

A.7.2.1 Background

Effective management and use of up-to-date technology are especially relevant for national libraries as their staff often have to act as experts in different fields of librarianship. Therefore, to enlarge and maintain staff competences will be even more important in national libraries than in other libraries.

The time spent on formal training for the staff can be seen as a measure of the library's ability to keep up with developments in different fields.

A.7.2.2 Definition of the performance indicator

The number of attendance hours of staff members at formal training lessons divided by the total number of library staff (number of persons, not FTE = full-time equivalents).

In the context of this performance indicator, formal training means pre-planned lessons which can be held in-house or externally, and delivered by library staff or external experts.

Informal training, e.g. point-of-use training, is excluded.

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

A.7.2.3 Objective of the performance indicator

To assess the improvement of library staff skills by attending training lessons and the priority that the library gives to staff development.

The performance indicator is relevant for all libraries.

Comparison between libraries is possible.

A.7.2.4 Method

The number of attendance hours at formal 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.

The Number of Attendance Hours at Formal Training Lessons per Staff Member is equal to

$$\frac{A}{B}$$

where

A is the number of attendance hours at formal training lessons during a specified time period;

B is the total number of library staff members.

Round off to the nearest integer.

As a subset, the number of attendance hours at training lessons on electronic services and information technology could be counted.

A.7.2.5 Interpretation and use of results

The performance indicator is a real number with no upper limit. A higher number indicates an improvement of competence in terms of training attended. A lower number can indicate the need to promote staff training. A high number of attendances at formal training lessons can however be the result of a few staff members attending many sessions. It will be important for the managers to monitor the total number of different staff who attend training.

The performance indicator does not include informal training and could therefore underestimate the amount of staff training.

The performance indicator will be affected by the number of training lessons offered and by the quality of the training. The quality of the lessons should be monitored by satisfaction questionnaires and/or by tests that assess the learning outcome of staff.

The performance indicator will also be influenced by the introduction of new services during the reporting year that require additional training.

In case of low attendance at training lessons, the library could promote the training lessons via its intranet or personal invitation and try to assess the employees' needs for specified training lessons.

A.7.2.6 Examples and further reading

The performance indicator as described here was introduced in the project EQUINOX, that collected and tested performance indicators for electronic library services (EQUINOX, 2000).

The German benchmarking project BIX uses the performance indicator "training days per staff member" for academic libraries. The results in 2005 showed an average of 2,7 d to 3,5 d for different types of libraries (BIX, 2006).

Some national libraries use a similar performance indicator. For example, the Royal Library of Denmark (2006) and the Bibliothèque Nationale de France (2006) count "days of training per year per person", which was 4,4 d in 2006 in France. In addition, the Bibliothèque Nationale de France counts the percentage of staff members having training each year: 72 % in 2006. The National Library of Finland gives statistical data for the number of training days per year, as well as for the number of staff. In 2006, there were 1 222 training days for 213 staff members = 5,74 d (Finnish Research Library Statistics Database, 2006).

A.7.3 Percentage of Library Means Received by Special Grant or Income Generated

A.7.3.1 Background

National libraries are generally mainly funded by the state. The budgets are calculated for the core tasks, but are often not sufficient for additional and/or new tasks. It will therefore be important for national libraries to try to obtain additional financial resources from other institutions or private persons, especially for projects that go beyond the main tasks. Such resources could be obtained via project grants, sponsoring, or income generated by the library.

The success in obtaining additional financial resources could be seen as a performance indicator for the initiative, renown and creativity of a national library.

A.7.3.2 Definition of the performance indicator

The percentage of library means received by special grants or income generated.

The overall library means include means for capital expenditure. The means received by special grants or income generated include those means for capital expenditure that were not paid by the funding bodies.

Special grants, in the sense of this performance indicator, are grants of a non-recurrent nature to fund major projects, e.g. a cost analysis project or the test of a chat reference service. Continuous funding by external bodies for special tasks of the library (e.g. keeping a centre for library education) is not considered as a special grant, but is included in the overall library means.

Income generated by the library includes income from fees, charges, subscriptions, and donations, and income generated by special activities like a library shop or advertisements.

A.7.3.3 Objective of the performance indicator

To assess the library's success in obtaining additional financial resources and therewith its ability for development.

Comparison of results between libraries is possible, if differences in the funding institutions are taken into account, and if the means are calculated in the same way.

A.7.3.4 Method

Determine the overall means of the library, including means for capital expenditure. As subtotal, calculate the income generated by the library and special grants, including those means for capital expenditure that were not paid by the funding bodies. Means obtained by special grants include funding in programmes for unemployed persons.

The Percentage of Library Means Received by Special Grant or Income Generated is equal to

$$\frac{A}{B} \times 100$$

where

A is the library means received by special grants and income generated;

B is the overall means of the library.

Round off to one decimal point.

A.7.3.5 Interpretation and use of results

The performance indicator is a real number between 0 and 100.

A higher score may indicate that the library successfully acts on its own initiative to obtain additional means. In this case, the library is considered ambitious and motivated.

The performance indicator also helps to gain knowledge about the extent to which the library is involved in tasks that go beyond the main mission of the library and therefore qualify for extra means.

The performance indicator can be influenced by the library's mission involving more or less research work for which more grants might be available and by legal restrictions for generating income. It could also be influenced by a decrease in means received by the funding bodies. Such a decrease would lead to an increase of this performance indicator, if the library's special grants and earnings remain constant.

A.7.3.6 Examples and further reading

The German benchmarking project BIX uses this performance indicator for academic libraries. The results in 2005 showed that on average 4,8 % to 8,8 % of funds (varying as to types of libraries) were received by external funding, special grants or income generation (BIX, 2006).

The Bibliothèque Nationale de France (2006) is using this performance indicator in its "Programme d'action". The goal for 2006 was to find other funds up to 5 % of the total budget and the result was 6,71 %.

The Finnish National Library reports in the annual national statistics both its total funding as the funding for projects and by income generation. Project funds and income generated together came to 18 % in 2006 (Finnish Research Libraries Statistics Database, 2006).

A.7.4 Percentage of Staff in National and International Cooperation and Projects

A.7.4.1 Background

National libraries often have a responsibility to support the promotion of the national culture, both within and outside the home country. Because of this, national libraries are usually the principle agents promoting national and international cooperation of the library network. The investment of staff resources in cooperation and projects can therefore be seen as a performance indicator of the library's engagement in its national and international role.

Given the global nature of the information and knowledge society, the engagement of national libraries in international library affairs should also be measured separately.

A.7.4.2 Definition of the performance indicator

The number of library staff (FTE = full-time equivalent) in national and international cooperation and projects, divided by the total number of library staff (FTE).

Only institutionalized and/or especially funded cooperation initiatives and projects should be considered for this performance indicator, e.g. national/international working groups or committees established by library associations or national/international projects funded by governmental or research organizations.

As a subset, the percentage of staff engaged in international cooperation and projects should be assessed separately.

International projects, in the context of this performance indicator, are those with at least one partner from outside the nation.

A.7.4.3 Objective of the performance indicator

To assess the intensity and spectrum of the library's national and international cooperation and therefore its importance in and impact on the library world.

Comparisons between libraries are possible, if the different possibilities for project funding are taken into consideration.

A.7.4.4 Method

A.7.4.4.1 The number of library staff (FTE) in national and international cooperation and projects is calculated by adding the time spent by all permanent and temporary, including project-based, staff on planning, maintaining and developing national and international cooperation and working in national and international projects. The number of staff working on international cooperation and projects is also counted separately.

Since many staff members contribute time to cooperation and projects, data should be collected by sampling. Staff are required to keep work diaries for a week, or for several representative days, and the amount of time spent on cooperation and projects is then calculated as a percentage of the total staff time worked during the sampling period.

A.7.4.4.2 The Percentage of Staff in National and International Cooperation and Projects is equal to

$$\frac{A}{B} \times 100$$

where

- A is the number of library staff (FTE) planning, maintaining and developing national and international cooperation and projects;
- B is the total number of library staff (FTE).

Round off to one decimal place.

A.7.4.4.3 The Percentage of Staff in International Cooperation and Projects is equal to

$$\frac{A}{B} \times 100$$

where

A is the number of library staff (FTE) planning, maintaining and developing international cooperation and projects;

B is the total number of library staff (FTE).

Round off to one decimal place.

A.7.4.5 Interpretation and use of results

The performance indicator is a real number between 0 and 100.

A high percentage will be considered as good, as it shows the engagement of the national library in national and international challenges of the information society.

The performance indicator results can vary greatly over years and can be influenced by the availability of funding for projects.

The performance indicator will be especially useful if applied consequently over years.

A.7.4.6 Examples and further reading

The National Diet Library, Japan, tested this performance indicator in 2007 for international cooperation only and found a score of 2,5 % (results not published).

A.8 Preserving the collection

A.8.1 Percentage of the Collection in Stable Condition

A.8.1.1 Background

The physical condition of a collection is an important factor of its suitability for any form of use. Since unstable material will suffer additional damage if handled, the distinction between stable and unstable is a critical one, separating material that can be used from that which can not. In the case of mould infestation there may also be health risks to human beings. National libraries serving as research libraries have the task to preserve and to provide effective access to all materials published in their country. Therefore, collections should be in a stable condition.

A.8.1.2 Definition of the performance indicator

The percentage of materials in the collection that are in a stable condition.

In the context of this performance indicator, stable condition is defined as suitable for use. Stable material may have some damage but can be used without immediate risk of further damage. Unstable material will be further damaged if used.

The performance indicator is restricted to the print and manuscript collection.

A.8.1.3 Objective of the performance indicator

To assess whether the collection is usable and accessible in its original form. The performance indicator therewith assesses the adequacy of the library's activity to preserve the originals.

A.8.1.4 Method

A random sample of 400 items of the print or manuscript collections is surveyed as to the condition of items in the sample. Items are classified in four categories:

a) good condition: usable with the normally advisable care for the collection;

b) fair condition: damaged, but stable if used with extra care and attention;

c) poor condition: moderately deteriorated, no use possible without further damage;

d) unusable condition: strongly deteriorated, item is to be excluded from use by its fragility, by mould, or pest infestation.

Categories a) and b) would be counted as stable, categories c) and d) as unstable.

The Percentage of the Collection in Stable Condition is equal to

$$\frac{A}{B} \times 100$$

where

A is the number of items in stable condition;

B is the total number of items in the sample.

Round off to the nearest integer

A.8.1.5 Interpretation and use of results

The performance indicator is an integer between 0 and 100.

If the results show low stability, further surveys could target specific parts of the collection (e.g. medieval or modern manuscripts, cartographic material, newspapers) or the special kind of damage (e.g. mechanical, biological, acid paper) in order to prioritize preservation activities. Measures taken can include:

— improvement of environmental conditions (temperature and relative humidity);

— changes in handling methods;

— storage in enclosures, e.g. boxes;

— conservation treatment;

— mass deacidification;

— rebinding;

— substitution of unusable items by copies or surrogates.

A.8.1.6 Examples and further reading

The performance indicator is adapted from a preservation survey programme in Great Britain (Walker and Foster, 2006). The headline findings of the preservation assessment carried out in a large number of archives and libraries in the UK show, for instance, that 13 % of material surveyed is actively deteriorating if used [category c) of this performance indicator: poor condition], and that 50 % of material is stored in inadequate accommodation.

In 2004, the Bavarian State Library at Munich, Germany, carried out a condition survey on the library's collections published between 1840 and 1970, which is 3,4 million titles. Based on a sample of 55 000 books, it was found that 45 % of the materials were suffering deterioration from acidic paper. Nearly half of these deteriorated materials are so massively damaged that the preservation of the materials in their original form is not possible.

The National Library of Finland carried out a condition survey of its national collection between 2001 and 2004 (Törrönen, 2005). This random sample survey formed the first stage of a larger survey planned to be completed in a few years' time.

The condition survey carried out with a sample of 3 684 volumes (2,6 %) published between 1810 and 1972 found, among other results, that in almost 100 % of the cases the paper was very acidic with a pH value of less than 5,5. The folding endurance test revealed that 10 % of the examined volumes would not withstand future use at all [category d) of this performance indicator: unusable condition].

A.8.2 Percentage of All Materials Needing Conservation/Restoration Treatment that Received Such Treatment

A.8.2.1 Background

Conservation as defined by ISO 5127:2001 consists of all intervention techniques applied to prevent, arrest or delay deterioration. Preservation is more broadly defined as all measures taken, including financial and strategic decisions, to maintain the integrity and extend the life of collections. Such preventive measures are usually much more cost-effective than intervention measures taken to remedy damage after deterioration has taken place. Conservation aims at preserving the materials in their original and authentic form taking into account their cultural, historical, aesthetic or artistic significance. Thus all information including historic materials and techniques will be retained, not only the textual information. Conservation treatment should be undertaken with care and in accordance with specified principles, in order to maintain the authenticity of the artefacts. Conservation is a skilled activity and should not be undertaken by untrained personnel. As national libraries' collections comprise publications and material whose content and form make them cultural, often valuable, artefacts that have to be safeguarded in their authentic form, national libraries have their own conservation staff, or employ a professional conservator.

A.8.2.2 Definition of the performance indicator

The percentage of all materials needing conservation/restoration treatment that received such treatment during one year.

In the context of this performance indicator, conservation/restoration is restricted to the treatment of rare materials and means manual treatment techniques, for example reinforcing joints or mending tears.

Mass conservation (deacidification) is excluded. Digitization is not counted as conservation/restoration treatment.

Rare materials as defined by ISO 2789 are rare books published before 1800, incunabula and manuscripts.

A.8.2.3 Objective of the performance indicator

To assess the library's activities in the conservation of rare material in its original form.

A.8.2.4 Method

The number of items that received conservation/restoration treatment is counted during a reporting year. The proportion of items in the collection needing conservation/restoration treatment is assessed by a survey at the start of the reporting year (see performance indicator in A.8.1). The groups c) (poor condition) and d) (unusable condition) in the survey are counted as needing such treatment. The proportion obtained from the survey should be multiplied by the total number of items in the collection, to obtain an estimate of the total number of items in need of conservation/restoration treatment.

The Percentage of All Materials Needing Conservation/Restoration Treatment that Received Such Treatment is equal to

$$\frac{A}{B}\times 100$$

where

A is the number of materials needing conservation/restoration treatment that received such treatment during the reporting year;

B is the total number of materials needing conservation/restoration treatment.

Round off to the nearest integer.

A.8.2.5 Interpretation and use of results

The performance indicator is an integer between 0 and 100.

A high percentage will be considered as good.

In order to get a more detailed view of conservation activities, the performance indicator should be calculated for different types of materials, e.g. manuscripts, newspapers, cartographic material.

If the results show a low percentage of items treated, actions to be taken could be:

— promoting the importance of preserving the documentary heritage in its original form via public media;

— trying for additional funds, e.g. by an adopt-a-book programme.

Given the marketing potential of rare material, such activities can be successful.

A.8.2.6 Examples and further reading

The question about the need of conservation treatment played a crucial role in the nationwide Heritage Health Index Survey (HHI), carried out in 2004 in the United States by the Preservation Heritage Foundation to assess the condition of the country's cultural assets in a large number of libraries and museums. The HHI findings indicate, for instance, that almost 40 % of the Library of Congress' collections are in need of treatment and/or rehousing in order to be used. Of these, more than 10 % are at risk of loss if nothing is done. This figure alone represents about 15 million items.

A.8.3 Percentage of Storage Space which has an Appropriate Environment

A.8.3.1 Background

Temperature, relative humidity, light and atmospheric pollution should all be considered carefully with respect to their potential to damage library and archive materials. Environmental control therefore means day-to-day monitoring of storage and reading rooms, exhibition areas and showcases.

Control of temperature and relative humidity is critical in the preservation of the written and printed heritage because organic material is hygroscopic, readily absorbing and releasing moisture. As relative humidity is dependent upon temperature, these two factors should be considered together. An unacceptable level of either temperature or relative humidity accelerates deterioration of materials. Additionally, exposing organic materials to visible and ultra-violet light causes fading of dyes, inks and pigments, and can accelerate the aging and embrittlement of paper, cloth and leather. Damage caused by light cannot be reversed and is cumulative. Air pollution contributes to the degradation of organic materials as particulate pollutants are acidic and may be abrasive. They may enter the library from outside, or may be generated by internal sources as products of material decay. Because of the fact that environmental conditions play a crucial role in preserving organic material such as paper, national libraries take special care of storage rooms which ensure that the collections in the long-term are housed in compliance with the corresponding standard (see ISO 11799).

A.8.3.2 Definition of the performance indicator

The percentage of storage space for the collection that offers an appropriate environment.

For this performance indicator, appropriate environment means adequate temperature, relative humidity (RH), light and air quality. The adequacy of temperature, RH, light and air quality for the long-term preservation of the main library and archive materials is defined by the ranges recommended in the International Standard on document storage requirements (see ISO 11799). In reference to RH and temperature, ISO 11799 recommends the following parameters.

— For the storage of paper, which should be preserved as long as possible, a minimum temperature of 2 °C and a maximum temperature of 18 °C with a daily tolerance of ± 1 °C within the limits is obligatory. RH should be at a fixed point between 30 % and 45 % with a daily tolerance of ± 3 % within the limits.

— For paper in frequently-used stock areas, ISO 11799 advocates a minimum temperature of 14 °C and a maximum temperature of 18 °C with a daily tolerance of ± 1 °C within the limits. RH should be at a fixed point between 35 % and 50 % with a daily tolerance of ± 3 % within the limits.

— For the storage of parchment and leather, ISO 11799 advises a minimum temperature of 2 °C and a maximum temperature of 18 °C with a daily tolerance of ± 1 °C. RH should be at a fixed point between 50 % and 60 % with a daily tolerance of ± 3 % within the limits.

Rapid changes of temperature and RH should be avoided with all materials.

In reference to the potential damage by light and lighting, visible radiation as well as ultra-violet radiation have to be controlled continuously. Ultra-violet radiation should be eliminated as much as possible. Daylight should be excluded from the storage rooms and use of artificial light should be kept to a minimum. Light intensity in storage rooms should not exceed 200 lx in terms of the floor. Light intensity in exhibitions should be no more than 50 lx.

ISO 11799:2003 also specifies the critical values of the most common pollutants, e.g. sulphur dioxide, nitrogen oxides, and atmospheric ozone (see ISO 11799:2003, pp. 10-11 and Table A.1, p. 15).

The performance indicator is relevant for the whole physical collection.

A.8.3.3 Objective of the performance indicator

To assess whether the collection is protected by adequate storage.

A.8.3.4 Method

Due to climate changes over the day and in the seasons, the data of temperature and RH should be collected during a reporting year by non-stop measuring in storage rooms with professional measuring instruments.

The area (in square metres) of storage rooms with appropriate environmental conditions is compared with the total area of storage rooms in the library.

Reading rooms with collections are excluded, as they are normally conditioned for the comfort of the library's users rather than for the preservation of the collection.

The Percentage of Storage Space which has an Appropriate Environment is equal to

$$\frac{A}{B} \times 100$$

where

A is the area of storage rooms with adequate environmental conditions;

B is the total area of storage rooms in the library.

Round off to the nearest integer.

A.8.3.5 Interpretation and use of results

The performance indicator is an integer between 0 and 100.

A high percentage will be considered as good.

If routine monitoring shows constant levels of temperature, RH and light according to ISO 11799 the environmental conditions for the documents are optimal.

It should be kept in mind that in some countries with high temperature and humidity, the real environment may deviate from the appropriate environment defined by ISO 11799.

Environmental monitoring can be relatively easy and inexpensive. It may be difficult to attain the standards without installation of an air conditioning system, but it is important to aim for stability of environment given the damaging influence of temperature and RH. By using ultraviolet protective glass or filter, curtains and sunshades to avoid the penetration of sunlight, the environmental conditions in storage and reading rooms can be optimized.

The potential damage by pollution can be reduced by filtering external air entering storage areas, or if filtration is not possible, by closing windows and doors effectively. To minimize the internal pollution of materials, equipment components, e.g. paints, have to be tested under this aspect. The use of storage enclosures in archival quality will protect collections considerably.

A.8.3.6 Examples and further reading

A large-scale preservation assessment (Walker and Foster, 2006) carried out in a large number of archives and libraries in the UK revealed that 68 % of post-1850 material is kept in inadequate environmental conditions. However, research at the Image Permanence Institute, Rochester, NY, has shown that a reduction from 72 °F to 62 °F at 50 % RH can double the life expectancy of paper. The same reduction at 40 % RH doubles life expectancy (Reilly *et al.*, 1995).The Association of Research Libraries conducted surveys of special collection repositories in member libraries in 1995 and 2006 (de Stefano and Walters, 2007). One question was whether the storage area was equipped to provide controlled temperature and humidity. The results in 1995 showed that 70 % had equipment for controlling temperature, 57 % for RH. In 2006, 72 % of respondents could control temperature, 64 % RH.

A.9 Managing efficiently

A.9.1 Staff Costs per Title Catalogued

A.9.1.1 Background

Libraries of all types have frequently attempted to measure their effectiveness in relation to their mission and goals. One of the ways that libraries accomplish this is to examine variables generated by the actions or outputs of their operations. Two of the most important variables that can be measured by any organization are *time*, the amount of chronological units expended by employees in accomplishing their tasks, and *cost*, the amount of financial resources expended in the same way (Fowler and Arcand, 2003).

Research in the field of time and cost studies is especially valuable for libraries in the current environment where they often have to demonstrate the value and efficiency of their processes and services.

Morris, Rebarcak and Rowley (1996) stated the benefits of time and cost analysis for libraries. If the real costs of divisional services are known, comparisons of the relative costs of different services are possible. Time and cost analysis reveals how administration, meetings, professional service and other overhead staff costs add significantly to service costs. This information enables staff to see more clearly the costs of the services they deliver and to gain a better understanding of the cost implications of practices and policies. Additionally, it helps managers to make decisions on reallocating staff resources, and it allows both staff and management to better understand and accept the need for change.

In the case of national libraries, due to their responsibility for creating, maintaining and managing the national bibliographies of their respective countries, the cataloguing tasks are crucial for the assignment of staff resources. Knowing the staff costs spent in cataloguing is important for national library managers aiming to increase their organization's effectiveness and efficiency.

A.9.1.2 Definition of the performance indicator

The staff cost of providing a description of a document and its logical and coherent insertion into a catalogue file, divided by the number of titles catalogued.

For this performance indicator, only cataloguing of the legal deposit/national publications should be considered.

For the purpose of this performance indicator, the term cataloguing refers to the physical description of a document and includes copy cataloguing, full original cataloguing, minimal original cataloguing and re-cataloguing.

Capture of authority records, subject analysis, indexing and classification are also included.

To avoid misunderstandings, the user of the performance indicator should state explicitly what type and part of cataloguing is included in the calculation.

A.9.1.3 Objective of the performance indicator

The performance indicator assesses the staff costs of a specific policy for producing bibliographic records.

It may be applied to different types of documents. Both complete and partial production of records and the import of data are included.

Comparison between libraries is possible, if the percentage of copy and/or minimal cataloguing, the type of subject cataloguing and classification, and differences in salaries are taken into account.

A.9.1.4 Method

The period used for measurement is fixed by the user of the performance indicator. Data should be collected during the defined sample period. Only cataloguing of the legal deposit/national publications should be counted.

To obtain the number of hours spent on producing bibliographic records, staff involved in cataloguing note the time they spend on this task during the sample period, as employees are sometimes involved in several tasks. Thus, the proportion of time that every employee dedicates to cataloguing can be calculated. If time logging is not possible, this proportion may, instead, be estimated.

The Staff Costs per Title Catalogued is equal to

$$\frac{(A \times B) + C}{D}$$

where

A is the total number of hours spent, during the sample period, on producing bibliographic and authorities descriptions, and identifying and retrieving imported bibliographic data;

B is the cost per hour of labour (wages during the sample period divided by the regular working time of the relevant staff);

C is the subcontract cost, where cataloguing is outsourced;

D is the number of titles catalogued during the sample period.

NOTE Other costs (buildings, operations, etc.) are specifically excluded in the calculation of this performance indicator, to allow comparisons between different methods of producing bibliographic records.

A.9.1.5 Interpretation and use of results

The performance indicator is a real number with no upper limit.

The staff costs of a catalogue entry can be affected by a number of factors, e.g. the different level of bibliographic description, the range and depth of authority control. The costs would be expected to reflect these differences.

The costs would be appraised in relation to the quality of the catalogue:

— effectiveness for users;

— effectiveness for staff (stock control and other internal functions);

— conformity to standards for exchange and communication.

The result would also be appraised in comparison with previous staff costs for the same library, or in comparison with other libraries.

If the costs per title catalogued seem too high, the library might

a) reconsider the level of description for specified groups of materials,

b) look to technical aspects, such as software and hardware performance,

c) revise workflows,

d) increase the amount of imported data by cooperation with other libraries in the country.

A.9.1.6 Examples and further reading

The performance indicator is adapted from a method described by Deriez and Giappiconi (1994).

One of the most important longitudinal time and cost studies was conducted by the Technical Services of the Iowa State University Library, between 1987 and 2001. Related to this experience numerous papers have been published (Morris, 1992; Morris and Osmus, 1992; Morris and Wool, 1999), focussing on aspects of staff time and costs for cataloguing. In one of the last articles, Morris *et al.* (2000) reported that the average cost of cataloguing a title at ISU fell from $ 20,83 to $ 16,25 per title between 1990/1991 and 1997/1998, and that at the end of 1999 the cost for creating and editing records was about $ 6,13 per title. The decrease of costs was due to shared cataloguing, internal process automation and more cataloguing done by support staff.

The National Library of Australia included in its Annual Report for the period 2005/2006 (2007) a measure that analyses the cost per collection item acquired and/or processed or digitized. This measure shows how this cost has increased in the last three years from AUD 38.43 to AUD 42.10.

A.9.2 Staff Costs per Loan

A.9.2.1 Background

National libraries as well as public and academic libraries are increasingly required to demonstrate that they use their funds efficiently and offer services of high quality. In this context, cost analysis studies can help to assess the level of efficiency.

Stein (2001) stated that generally cost studies in the field of interlibrary and document supply services have one or more of the following goals:

— to understand and communicate the cost to the institution or the nation providing the service;

— to provide a basis for comparison among alternative sources of supply;

— to set realistic charges for services provided;

— to provide realistic reimbursement for net-lenders;

— to determine how major or minor changes in the service will influence costs;

— to determine if the service is cost-effective;

— to compare costs among similar libraries;

— to obtain baseline data to compare cost over time.

At the national level, cost studies are often undertaken mainly for the purpose of defining national interlending fees, and are sponsored by central agencies or organizations.

Methodologically, there are two major approaches for determining the average unit cost of fulfilling an interlending request (Lor, 1992):

— the *macro approach,* that calculates the costs during a given period and divides this by the total number of fulfilled lending requests;

— the *micro approach* that involves collecting cost data for the various steps in the lending process and calculating the average cost from a sample of selected transactions.

These two approaches may also be combined.

When a costing study is planned, decisions are required on whose costs are to be measured, which types of costs are to be taken into account, whether a macro or a micro approach to costing is to be followed and which data collection procedures will be most appropriate.

In most cost studies for lending, interlibrary lending and document supply services, the direct costs were identified as staff, network and communication, delivery, photocopying and scanning, office supplies, equipment, software and maintenance and borrower fees. The findings of all these studies showed that the most important cost factor in all cases is the staff cost: it is usually around 70 % of the total cost.

A.9.2.2 Definition of the performance indicator

The staff costs for library lending and delivery services during a full financial year divided by the total number of loans in the same period.

Loans, for the purpose of this performance indicator, include:

— local loans, including in-house loans;

— interlibrary loans;

— document delivery transactions.

Activities like retrieving items from the shelves and photocopying/scanning are included in the loan transaction.

A.9.2.3 Objective of the performance indicator

The performance indicator assesses the efficiency of the library's lending and delivery services.

The performance indicator is especially useful for comparing costs in a specific library over a number of years.

Comparison between libraries is possible if the different percentages of types of loan and delivery and differences in salaries are considered.

A.9.2.4 Method

The library fixes a period with normal activity for sampling.

To obtain the number of hours spent on local lending, interlibrary lending, and document delivery, staff involved in these services note the time they spend on these tasks during the sample period, as employees are sometimes involved in several tasks. Thus, the proportion of time that every employee dedicates to lending and delivery services can be calculated. If time logging is not possible, this proportion may, instead, be estimated.

The Staff Costs per Loan is equal to

$$\frac{A \times B}{C}$$

where

A is the total number of hours spent in local lending, interlibrary lending and document delivery;

B is the cost per hour of labour (wages divided by the regular working time of the relevant staff);

C is the number of loans plus interlibrary loans plus document deliveries during the sample period.

For the purpose of this performance indicator, copies provided by the library as substitutes for loans are included.

Retrieving items from the shelves and photocopying/scanning for the delivery are included.

Outgoing interlibrary loans are included. Incoming interlibrary loans are excluded. It is important that the inclusions and exclusions are described when the performance indicator is used for comparing libraries.

In certain cases, especially when some of the activities have been outsourced, it can be useful to calculate staff costs separately for loans and for interlibrary loans plus document delivery.

A.9.2.5 Interpretation and use of the results

The performance indicator is a real number with no upper limit. A low score is considered as good.

The performance indicator establishes the relationship between the number of loans and the staff cost of providing the lending and delivery services of the library, but should not in normal cases be interpreted as an

estimate of the average cost of a loan transaction, as all other costs are excluded. As lending and delivery services constitute an important task of national libraries, the performance indicator may be used to assess the overall efficiency of the services.

The performance indicator can be influenced by the percentages of the different types of lending and delivery and by the differences of salaries between countries.

If the cost per loan seems too high, the library might:

— try to use more computerized processes;

— revise workflows;

— replace professional staff in certain services by non-professionals.

A.9.2.6 Examples and further reading

This performance indicator was described in the handbook “Keys to success” (King Research, 1990, pp. 50-51), but was restricted to local loans.

In the last decade, a number of studies have investigated the efficiency of the interlibrary loan and document delivery services of various libraries in the United States, Australia and the Nordic countries. The first of them was the Interlibrary Loan and Document Delivery Performance Measures Study conducted by the Association of Research Libraries (ARL) during the years 1995 and 1996 that surveyed 119 libraries (Jackson, 1997). This study examined four performance measures (unit cost, fill rate, turnaround time and user satisfaction) and was the first to apply a consistent research model to interlibrary loan units to establish best practices of lending and borrowing operations. The average unit cost for borrowing transactions was $ 18,35 and the cost to lend an item was $ 9,48, but the ten research libraries with the best performance recorded unit costs of just less than $ 12,00 for borrowing and direct unit costs of just less than $ 7,50 for lending.

In 2001/2002 another survey in 72 research, academic and special libraries showed that user-initiated services had lower unit costs and that mediated borrowing costs had improved since the 1996 study because staff costs now represented less than 60 % of the unit cost (Jackson, 2003).

The methodology of the ARL study was later adapted for both the Australian and Nordic studies.

In 2000, the Australian National Resource Sharing Working Group with the assistance of the National Library of Australia conducted the most comprehensive study ever undertaken for ILL/DD operations in Australian libraries (National Resource Sharing Working Group, 2001). Ninety-seven libraries from all states and territories and sectors were surveyed, with eight state, territory and national libraries among them. The main performance measures used in this study were turnaround time, fill rate and unit cost for requesting activities and fill rate and unit cost for supplying ones. The findings showed the average total unit cost for the participating libraries was AUD 32,10 for requesting and AUD 17,03 for supplying. In the case of national/state libraries, on average they had a significantly higher total unit cost for requesting, almost AUD 80.

Staff represented, on average, the largest proportion of the total unit cost of ILL/DD both for requesting (61,2 %) and for supplying (76,8 %) in all sectors. In the national/state libraries sector this proportion reached 74,9 % for requesting and 81,1 % for supplying. An increase in the contribution of any staff category to the unit cost was associated with an increase in total unit cost. Therefore, one of the five main recommendations of the study was to maximize staff competency and efficiency, as staff would be the largest potential for savings.

Almost simultaneous with the Australian project, the Performance of Interlending in Nordic Academic Libraries study (Vattulainen, 2003), funded by the Nordic Council for Scientific Information, aimed at improving the performance of interlibrary lending service in Nordic research libraries.

The study examined three issues: unit cost, fill rate and timeliness. Sixty-five libraries from Denmark, Sweden, Finland, Norway and Iceland took part in the project during 2000 and 2001. The average unit cost was 12,56 €

for borrowing and 7,24 € for lending, with a total cost of 19,90 € for an interlibrary loan. However, the unit costs differed between countries:

— in borrowing, between 6,26 € and 26,03 €;

— in lending, between 2,47 € and 21,94 €.

Comparison with the results of the studies in the USA and Australia showed that the Nordic libraries had an essentially lower unit cost level, both for borrowing and for lending. Staff costs were generally about two-thirds of total costs, similar to the US level and higher than the Australian percentage.

No example was found where the “cost per loan” was widened to include both local loans and interlibrary loans plus document deliveries.

A.9.3 Employee Productivity in Media Processing

A.9.3.1 Background

National libraries, like all other libraries, should demonstrate that they have organized their processes cost-effectively. Assessing employee productivity is an important issue when evaluating the organization of the library. There are two service areas in the library that best allow comparing efficient processes with other libraries, as they exist in similar form in all libraries: the media processing department and the lending and delivery services.

For media processing, performance indicators of quality will be the speed and accuracy of processing. Efficiency can be assessed by comparing the output of one FTE (full-time equivalent) staff over time and with results in other libraries. The results will be especially interesting for the funding institution, as the question of how many staff members are necessary for the library’s tasks is one that is always debated between libraries and their funding bodies.

A.9.3.2 Definition of the performance indicator

The number of acquired media is divided by the number of employees (FTE) involved in media processing (acquisition and cataloguing, excluding retrospective cataloguing).

Media, in the sense of this performance indicator, include all types of media.

The performance indicator does not measure the quality (speed and accuracy) of the service delivery.

A.9.3.3 Objective of the performance indicator

The performance indicator exemplarily demonstrates overall employee productivity by measuring employee productivity in media processing.

The performance indicator is useful for comparison over time. Comparison to other libraries is possible, if differences in the acquired media and in the workflow and the methods of media processing are taken into account.

A.9.3.4 Method

Count the number of print and electronic documents acquired in a certain period. For electronic periodicals and newspapers, an annual subscription is counted as one volume.

Calculate the FTE of staff involved in acquisition and cataloguing (including the acquisition and cataloguing of periodicals, but excluding retrospective cataloguing). Include temporary and permanent staff, as well as project staff. Because employees are sometimes involved in several tasks, the time they spend on each task should be logged during a representative period, preferably a month. Thus, the proportion of time that every employee dedicates to media processing can be calculated. If time logging is not possible, this proportion can, instead, be estimated.

The Employee Productivity in Media Processing is equal to

$$\frac{A}{B}$$

where

A is the number of media acquired in a certain period;

B is the FTE of staff involved in media processing over the same period.

Round off to the nearest integer.

Libraries may wish to make separate calculations for different types of media.

A.9.3.5 Interpretation and use of results

The performance indicator is an integer with no upper limit. A higher score will usually be considered as good.

The performance indicator will be influenced by the type of media to be processed, the methods of media processing, the possibility of copy cataloguing, and the qualifications of staff in media processing.

This performance indicator should not be applied in cases where the above responsibilities have been outsourced, e.g. by buying cataloguing data.

If the employee productivity seems too low, the library might

— reconsider the level of description for specified groups of materials,

— revise workflows,

— use more automated procedures,

— intensify staff training,

— increase the number of imported data by cooperation with other libraries in the country.

A.9.3.6 Examples and further reading

The performance indicator was introduced in a German controlling project for academic libraries (Ceynowa and Coners, 2002) and adopted by the German benchmarking project BIX for academic libraries. The results in 2005 showed the following scores for media processed per FTE staff per year (BIX, 2006):

— 1 996 media in universities of applied sciences;

— 2 497 media in universities with a one-tier library system;

— 2 972 media in universities with a two-tier library system.

The performance indicator is also used in the benchmarking project of the Netherlands university libraries, but is restricted to books (Laeven and Smit, 2003). The results for 2004 showed an average of 1 017 titles of books processed per FTE staff per year. The detailed results are only available to participants.

Most national libraries report yearly the number of acquired media, differentiated as to types of media. In some cases, national libraries also report the number of staff regularly working in media processing. But, for an accurate analysis of processing effectiveness, time logging as described in this performance indicator will be necessary.

A.9.4 Employee Productivity in Lending and Delivery Services

A.9.4.1 Background

Access to the national library's collection is important for all users of a national library, whether these are persons or other libraries. The national library is often the one and only library where the user can find a certain material. It is therefore an important goal of national libraries to provide quick and effective access to its collections for research, learning, and personal development. The employee productivity in lending and delivery services can be seen as a measure for the effectiveness of the library's user services.

Assessing employee productivity is also important when evaluating the organization of the library. National libraries, like all other libraries, should demonstrate that they have organized their processes cost-effectively. There are two service areas in the library that best allow comparing efficient processes with other libraries: the media processing department and the lending and delivery services. For lending and delivery services, performance indicators of quality will be the speed and accuracy of delivery. Efficiency can be assessed by comparing the output of one FTE (full-time equivalent) member of staff over time and with results in other libraries. The results will be especially interesting for the funding institution, as the question of how many staff members are necessary for the library's tasks is one that is always debated between libraries and their funding bodies.

A.9.4.2 Definition of the performance indicator

The total number of loan transactions during one year divided by the number of employees (FTE) involved in local lending, interlibrary lending and document delivery, including staff retrieving items from the shelves and photocopying/scanning for delivery.

Loans, for the purpose of this performance indicator, include

— local loans, including in-house loans;

— interlibrary loans;

— document delivery transactions.

A.9.4.3 Objective of the performance indicator

The performance indicator assesses the efficiency of the library's lending and delivery services.

Comparison between libraries will be possible, if the different percentages of types of loan and delivery and differences in the degree of automation are considered.

The performance indicator does not measure the quality (speed and accuracy) of the service delivery.

A.9.4.4 Method

Count the number of local loans (including in-house loans), interlibrary loans and document deliveries during one year.

Calculate the FTE of staff involved in local lending, interlibrary lending and document delivery, including staff retrieving items from the shelves and photocopying/scanning for delivery.

Include temporary and permanent staff, as well as project staff. Because employees are sometimes involved in several tasks, the time they spend on each task should be logged during a representative period, preferably a month. Thus, the proportion of time that every employee dedicates to local lending, interlibrary lending and document delivery can be calculated. If time logging is not possible, this proportion can, instead, be estimated.

The Employee Productivity in Lending and Delivery Services is equal to

$$\frac{A}{B}$$

where

A is the number of local loans, interlibrary loans and document deliveries during one year;

B is the number of FTE staff involved in lending and delivery services over the same period.

Round off to the nearest integer.

In certain cases, especially when some of the activities have been outsourced, it can be useful to calculate staff productivity separately for local loans and for interlibrary loans plus document delivery.

A.9.4.5 Interpretation and use of results

The performance indicator is an integer with no upper limit.

A higher score will usually be considered as good.

The performance indicator will be influenced by the types of media to be delivered, the percentage of the different types of loan and delivery, the grade of automation, and the workflow.

If employee productivity seems too low, the library could try to

— revise workflows,

— use more automated procedures,

— intensify staff training.

A.9.4.6 Examples and further reading

This performance indicator has not been described in the same form before, but has already been used in a similar form in libraries.

The university libraries in North-Rhine Westphalia, Germany, evaluated for several years the allocation of staff to background and front services and also the average staff performance in those services (Poll, 2000). In 2001, on average 43,5 % of staff resources were allocated to user services. In the same year, staff in the lending department handled on average 30 266 issues per person, and staff employed in interlibrary lending handled 13 199 lending transactions per person.

Another method that libraries have used to assess the possible output of one FTE member of staff per year starts from average production times for a product or service where such products and services can be quantified. In this method, time-logging is applied for a sample time, and results are compared between a number of libraries of similar structure and clientele (Ceynowa and Coners, 2003, pp. 78-84). The average time for one product unit, e.g. 20 min for one acquired medium or 3 min for one loan, can be used to estimate a kind of “standard” output of one FTE member of staff per year.

National libraries generally count the number of loans and document deliveries per year. Some of them also report the number of staff working in lending and delivery services. But, for an accurate analysis of processing effectiveness, time logging as described in this performance indicator will be necessary.

The National Diet Library, Japan, tested the performance indicator in 2006 and calculated an average of 25 560 transactions per FTE staff member, including onsite loans, interlibrary loans and document delivery (results not published).

In 2006, the Bavarian State Library counted 1 677 400 local loans, 263 000 successful document delivery transactions and 211 700 successfully operated interlibrary loans. This sums up to a total of 2 152 100 delivery transactions. Staff involved in these services sums up to 93,5 (FTE). The employee productivity in lending and delivery services in 2006 was 23 017 transactions per employee (Bayerische Staatsbibliothek, 2008).

Annex B
(informative)

Mission and main goals of national libraries

B.1 Mission

National libraries have special responsibilities, often defined in law, for a country's cultural heritage. They collect and preserve the national documentary heritage and provide and ensure permanent access to the knowledge and culture of the past and present. They develop central services and take a leading role in the library and information sector.

B.2 Main goals

B.2.1 Collection

The main goals of the collection are:

— to collect the national imprint (both print and electronic), generally via legal deposit;

— to collect the national documentary heritage in the form of manuscripts, archival materials, cartographic materials, printed music documents, pictures, photographs and audiovisual documents in conventional or electronic format;

— to collect foreign publications in the national language and/or about the country;

— to maintain a broad collection of foreign publications.[1)]

B.2.2 Access

The main goals of access are:

— to create the national bibliographic record;

— to provide quick and effective access to the collections for research, learning, and personal development;

— to provide remote access to the collection by digitizing relevant materials;

— to provide central services (e.g. reference, bibliography, lending, and document delivery) to users both directly and through other library and information centres.

B.2.3 Marketing

The main goal of marketing is to promote the national documentary heritage through exhibitions and other cultural events.

1) The collection of foreign literature may be universal or restricted to subjects, e.g. humanities.

B.2.4 Preservation

The main goal of preservation is to preserve the national documentary heritage in all formats and thus ensure long-term access to the collections.

B.2.5 Cooperation

The main goals of cooperation are:

— to engage in library and information affairs on a national and international basis;

— to join in library and information research;

— to cooperate nationally and internationally with libraries and other institutions like museums and archives.

B.2.6 Management

The main goals of management are:

— to ensure effectiveness and cost-efficiency through innovative technology and adequate management methods;

— to provide for staff development.

B.2.7 Additional tasks

Other goals include:

— to provide a centre for library education;

— to serve as national forum for international programmes and projects;

— to provide central services for libraries like the National Union Catalogue or a national centre for digitization;

— to provide for national library statistics.

Annex C
(informative)

Collecting the national part of the Internet

C.1 General

This Annex gives a first overview of methods and quality issues for the collection of Internet resources. It does not describe performance indicators for this activity, which might be added in the next edition of this Technical Report.

NOTE 1 The issue of "cataloguing" the Internet collection, e.g. inclusion in the national bibliography, is not dealt with in this Annex.

NOTE 2 Terms and definitions in this Annex are not included in clause 3 of this Technical Report.

The question of comprehensively collecting Internet resources for the purpose of conservation is rather new for libraries and especially for national libraries. Nevertheless, the rapid growth of storage capacities and the development of effective browsing robots make the collection of significant parts of online publishing now realistic at a reasonable cost. Many countries and their national libraries are developing legal frameworks, strategies, skills and tools to facilitate Web archiving. This emerging activity is often approached as an extension to legal deposit regulations. Several countries collect Internet resources based on the permission of publishers without revising their legal deposit regulations.

C.2 Internet resources

Internet resources are defined as all materials (e.g. text, image, video, audio or multimedia) that are made publicly available via the Internet.

C.3 Collect or deposit?

Unlike a traditional legal deposit (which presupposes a real *physical deposit* from a printer or an editor), the legal deposit of Internet resources can be realized, within limits, through *collection* (harvesting), without any action by the producer or the host. Some national libraries also collect electronic files through publisher-based electronic deposits, but this paper concentrates on harvesting issues.

C.4 The scope of the legal deposit of Internet publications

Due to its very nature, the extent and limits of the legal deposit of Internet resources cannot be defined as easily as the traditional legal deposit of physical items. Defining the scope of the legal deposit of Internet resources requires a political decision, linked to technical capacities. The national law on legal deposit can be made more or less precise and usually also addresses copyright and personal data protection issues. There are currently three main approaches for the harvesting of Internet resources, of which the first can be taken without revising the legal deposit regulations:

— permission-based harvesting (which requires explicit permission from Internet publishers before collecting);

— opt-out strategies (harvest all, withdraw items upon publishers' request);

— bulk harvesting (no permission required, no withdrawal upon request).

Some basic criteria should be considered.

C.5 Objects

Internet resources not only include websites, but also newsgroups, newsletters and various transfer and communication protocols. For example, France decided to consider collecting not only websites but also all content which has been sent or put online with the intention to be *publicly available*.

C.6 National boundaries

The fact of being distributed or produced within national geographical boundaries is a traditional criterion for legal deposit, but it obviously does not easily apply to Internet resources. A solution can be to consider the legal responsibility for content: the scope of the legal deposit should align with the signs, messages and contents which are *subject to national laws*, wherever they have been produced. This criterion has been adopted in France.

Another option has been chosen in Switzerland and Denmark where the law simply targets contents which are "about" or "of interest to" the national heritage (whether they are produced on the national territory or not), which leaves room for a variety of implementation strategies.

C.7 Language

For some countries, the language of written or spoken contents can be a criterion in defining the scope of legal deposit. If the language is only or mostly spoken in a single country, this criterion will prove especially useful for automated discrimination of content.

Generally, depending on each country's traditions, history and outlook on national heritage, the scope of the legal deposit of Internet resources is a combination of these criteria.

C.8 The implementation of collecting Internet resources

Once the scope has been defined, criteria should be found to ensure the quality of the collection. The main quality performance indicator for the legal deposit is exhaustiveness. Regarding websites, three main exhaustiveness criteria can be suggested, which can be rather precisely, regularly and easily measured:

— coverage,

— depth, and

— frequency.

C.9 Coverage or "width" of collection

The appointed national registration agency can supply the list of all top domain names registered in the country. For example, in France, AFNIC (the French registration agency), in accordance with a formal agreement, has given to the national library the list of the more than one million top-domain website domain names registered under the French Top Level Domain (.fr). A similar strategy was developed by the National Foundation for Scientific Computing of Portugal for the Portuguese Top Level domain (.pt). The browsing robot has been loaded with these addresses, ensuring a first level of coverage. The list should be complemented by ".eu", ".com", ".org", or ".net" addresses patently produced in the country or legally hosted in the country. These external domains can be automatically found by capturing websites redirected by other websites hosted under the national Top Level Domain.

Another way to complement the automatically registered list of top domain names, and to ensure a "core collection" is to organize a human selection: for example, as for a traditional acquisition process, librarians from various sectors of the Bibliothèque Nationale de France (literature, maps, economy, etc.) are asked to

select websites they particularly want to be browsed and collected. About 5 000 websites are currently monitored this way. The British Library, the Library of Congress, the national libraries of Australia and New Zealand, the National Diet Library of Japan and other national libraries have a similar organization and therefore process “focused” crawls which are either theme- or event-based (such as national elections).

C.10 Depth of collection

Another major criterion is the number of hyperlinks (in other words, the number of clicks or “hops” from the homepage) which are followed from a given top domain name: one can consider a *surface* collection or a *deeper* one. This is usually decided upon legal deposit and scientific criteria but also depends on storage, bandwidth, computing and other available resources. Regardless of resources, many contents and databases from the deep Web and from the most dynamic Web publications remain impossible to capture due to current technical limitations.

The depth of collection for the “core collection” websites is defined by the proposing librarians themselves.

C.11 Frequency of collection

As websites (usually) have dynamic and rapidly updated contents, the frequency of collection can be considered as a third exhaustiveness criterion. Due to current technical limits, one collection per year should be considered. Of course, more frequent collections are desirable, especially for contents such as news media or event-based websites (e.g. festivals, elections).

Quality can therefore be assessed through a combination (and balance) of these three criteria.

C.12 Additional criteria

To improve the quality of collection, some additional criteria can be looked at, requiring a direct contact with the producer or the host. These criteria are not *absolute*, but rather *modifying* criteria. Here are two examples.

— Politeness: In order to not disrupt services, the browsing robot does not usually send too many requests at a time to servers. In agreement with the hosts, the number of requests per minute can be increased if servers are robust enough to tolerate it.

— Bypass captures and passwords: Hosts can provide the browsing robot with passwords, special addresses or other means in order to collect normally inaccessible parts of websites.

C.13 Results of collection and consultation

Generally, the result of the automatic collection is encapsulated and properly indexed as a set of archive files wrapped in a container file complying with the ARC or WARC formats. The aim is not to store Internet files separately, depending on their nature or their logical link, but to store Internet content as a flow of related data. The structure is rebuilt thanks to the indexes so that the end-user can browse the archive in its initial operating environment. Other forms of deposit should be limited to very few and precise cases, in order to not multiply the different storage methods and formats and to save staff and computing resources.

National libraries engaged in Web archiving need new performance indicators to qualify and quantify Web archives. Regardless of the size and scope of their collections, all tend to use at least two “atomic” measures: the “weight” of the collection, expressed in gigabytes or terabytes, and the number of files, items or documents, expressed in number of URLs. Figures vary to a great extent, from a few thousands to several billion URLs depending on the legal context and production strategy of each institution.

The conditions of consultation of the legally deposited publications differ according to national laws and regulations. Due to various legal obstacles, few national libraries have reached the stage of providing public access to their collections. In France, the collections can only be consulted by registered researchers within the national library's reading rooms (similar restrictions apply to other legal deposit material). In Canada, they can be accessed online through the national library's website, but the library had to obtain permission for this from each individual publisher.

For counting usage, the usual methods of assessing the use of electronic resources can be applied.

Bibliography

[1] ISO 2789:2006, *Information and documentation — International library statistics*

[2] ISO 5127:2001, *Information and documentation — Vocabulary*

[3] ISO 9707:2008, *Information and documentation —Statistics on the production and distribution of books, newspapers, periodicals and electronic publications*

[4] ISO 9241-11:1998, *Ergonomic requirements for office work with visual display terminals (VDTs) — Part 11: Guidance on usability*

[5] ISO 11620:2008, *Information and documentation — Library performance indicators*

[6] ISO 11799:2003, *Information and documentation — Document storage requirements for archive and library materials*

[7] ANSI/NISO Z39.7-2004, *Information Services and Use: Metrics & statistics for libraries and information providers — Data Dictionary*

[8] ALA. American Library Association. Reference and User Services Association, 2004. *Guidelines for implementing and maintaining virtual reference services*. Available from: http://www.ala.org

[9] AMBROŽIČ, M., JAKAC-BIZJAK, V. and PEČKO MLEKUŠ, H. 2003. *Performance Evaluation in European National Libraries: State-of-the-Art.* Available from: http://www.ifla.org/IV/ifla69/papers/024e-Ambrozic_Jakac-Bizjak_Mlekus.pdf

[10] AUSTRALIAN LIBRARY AND INFORMATION ASSOCIATION, 2006. *Australian Interlibrary Resource Sharing (ILRS) Code*. Available from: http://www.alia.org.au/interlibrary.lending/ilrs.code.html

[11] BANUSH, D., 2006. *Turnaround Time in Library Technical Services: A Benchmarking Stu*dy. Available from: http://lts.library.cornell.edu/lts/who/reports/upload/Turnaround%20study%20report%20Brief1.pdf

[12] BIBLIOTHEQUE NATIONALE DE FRANCE. *Rapport d'activité 2006.* Available from: http://www.bnf.fr/pages/connaitr/pdf/rapport2006/annexes.pdf

[13] BIBLIOTHEQUE NATIONALE DE FRANCE. Gallica. Charte documentaire. http://www.bnf.fr/pages/infopro/numerisation/po_chartegallica.htm

[14] BIX. Der Bibliotheksindex, 2006. *B.I.T. online* Sonderheft 2006

[15] BIX. Der Bibliotheksindex. Wissenschaftliche Bibliotheken. Available from: http://www.bix-bibliotheksindex.de/

[16] BRINDLEY, L., 2004. Powering the world's knowledge, *Research Information,* January-February 2004. Available from: http://www.researchinformation.info/rijanfeb04lynne_brindley.html

[17] BRITISH LIBRARY, 2003. *The Code of Service to readers and visitors*. Available from: http://www.bl.uk/aboutus/stratpolprog/code/readcode.html

[18] BRITISH LIBRARY, 2005. *Reader satisfaction survey 2005*. Available from: http://www.bl.uk/

[19] BRITISH LIBRARY. *Digitisation.* Available from: http://www.bl.uk/aboutus/stratpolprog/digi/digitisation/index.html

[20] BRITISH LIBRARY, 2006. *Thirty-Third Annual Report and Accounts 2005/2006. Key performance indicators*. Available from: http://www.bl.uk/about/annual/2005to2006/pdf/kpis.pdf

[21] BRITISH LIBRARY, 2007. *Thirty-Third Annual Report and Accounts 2005/2006.* Available from: http://www.bl.uk/about/annual/2005to2006/introduction.html

[22] BRITISH LIBRARY, 2007. *Annual Report and Accounts 2006/07, Performance, Statistics*. Available from: http://www.bl.uk/about/annual/2006to2007/performstats.html

[23] BRYANT, P., 1989. Performance measures for national bibliographic services, *Alexandria,* **1** (2), pp. 27-35

[24] BURTON, P., 1990. Accuracy of information provision: the need for client-centred service. *Journal of Librarianship and Information Science*, **22** (4), pp. 201-215

[25] CENTRAL IOWA LIBRARY SERVICE AREA, 2005. *Standards for shelving library materials*. Available from: http://cilsa.lib.ia.us/files/5-2-12.pdf

[26] CEYNOWA, K. and CONERS, A., 2002. Balanced Scorecard für wissenschaftliche Bibliotheken, *Zeitschrift für Bibliothekswesen und Bibliographie, Sonderheft 82,* Klostermann, Frankfurt a. M.

[27] CEYNOWA, K. and CONERS, A., 2003. *Cost management for university libraries*, Saur, München

[28] CLOUGHLEY, K., 2004. Digital reference services: how do the library-based services compare with the expert services? *Library Review,* **53**(1), pp. 17-23

[29] COUNTER, 2008. *Code of Practice for Journals and Databases.* Available from: http://www.projectcounter.org/code_practice.html

[30] COUNTER, Code of Practice, Release 2:2004, Available from: http://www.projectcounter.org/cop2.html

[31] CREASER, C., 2006. User surveys in academic libraries, *New Review of Academic Librarianship* **12** (1), pp. 1-15

[32] CROWLEY, T. and CHILDERS, T., 1971. *Information service in public libraries: two studies.* Metuchen: Scarecrow Press

[33] DERIEZ, R., and GIAPPICONI, T., 1994. Analyser et comparer les coûts de catalogage, *Bulletin des Bibliothèques de France,* **39** (6), pp. 28-33

[34] DILEVKO, J. and DOLAN, E., 1999. *Government Document Reference Service in Canada: Implications for Electronic Access.* Available from: http://dsp-psd.communication.gc.ca/Rapports/Dilevko_Dolan/dilevko-e.html

[35] DILEVKO, J., 2000. *Unobtrusive Evaluation of Reference Service and Individual Responsibility: The Canadian Experience*. Westport, CT: Ablex Publishing

[36] DRAGON, P. and BARRICELLA, L.S., 2006. Assessment of technical services workflow in an academic library: a time-and-path study, *Technical Services Quarterly*, **23** (4), pp. 1-16

[37] DYSON, L., 1999. Improving Quality of Documents Reference Service. *Proceedings of the 8th Annual Federal Depository Library Conference*. Available from: http://www.access.gpo.gov/su_docs/fdlp/pubs/proceedings/99pro34.html

[38] EDGREN, J. *et al.*, 2005, Quality handbook, performance indicators for library activities, The Swedish Library Association's Special Interest Group for Quality Management and Statistics. Available from: http://www.biblioteksforeningen.org/

[39] EQUINOX. Library Performance Measurement and Quality Management System. Performance Indicators for Electronic Library Services, 2000. Available from: http://www.equinox.dcu.ie/reports/pilist.html

[40] ESTC, The English Short Title Catalogue. Available from: http://estc.bl.uk/F/?func=file&file_name=login-bl-list

[41] EVEREST, K. *et al.*, 2002. *Project 2: Benchmarking Shelving Processes 2000/01 and 2001/02*. http://www.lboro.ac.uk/departments/ls/lisu/downloads/op33p2.pdf

[42] FINNISH RESEARCH LIBRARY STATISTICS DATABASE, 2006. Available from: https://yhteistilasto.lib.helsinki.fi/language.do?action=change&choose_language=3

[43] FOWLER, D.C. and ARCAND, J., 2003. Monographs acquisitions time and cost studies: the next generation. *Library Resources & Technical services*, **47** (3), pp. 109-124

[44] FRANKLIN, B., 2005. Managing the electronic collection with cost per use data, *IFLA Journal,* **31** (3), pp. 241-248. Available from: http://www.ifla.org/V/iflaj/IFLA-Journal-3-2005.pdf

[45] FUTURE LIFE OF COLLECTIONS. Report on a meeting on Applied Conservation Research held at the British Library on 27–28 September 2004. Available from: http://www.bl.uk/aboutus/stratpolprog/ccare/introduction/research/futurelife.pdf

[46] HAYDEN, A. *et al.*, 2004. *University library website usability study report, University of Calgary Library website usability study team.* Available from: http://hdl.handle.net/

[47] HERITAGE HEALTH INDEX RESULTS (HHI), 2004. Available from: http://www.heritagepreservation.org/hhi/

[48] HERNON, P. and MCCLURE, C.R., 1986. Unobtrusive reference testing: The 55 % rule. *Library Journal,* **111** (7), pp. 37-41

[49] HOLLAND, D., 2005. Practical experiences of using formal usability testing as a tool to support website redesign, *SCONUL Focus* 36 Winter, pp. 31-35

[50] HURLBERT, T and DUJMIC, L.L., 2004. Factors affecting cataloguing time: an in-house survey, *Technical Services Quarterly*, **22** (2), pp. 1-14

[51] ICBNS, International Conference on National Bibliographic Services, 1998. *The final recommendations,* ICBNS, Copenhagen. Available from: http://www.ifla.org/VI/3/icnbs/fina.htm

[52] IFLA, 2007. *Guidelines for Best Practice in Interlibrary Loan and Document Delivery.* Available from: http://www.ifla.org/VI/2/p3/Guidelines_ILDD-en.htm

[53] JACKSON, M., 1997. Measuring the performance of interlibrary loan and document delivery services. *ARL: A Bimonthly Newsletter of Research Library Issues and Actions*, **195**, pp. 1-3

[54] JACKSON, M., 2003. Assessing ILL/DD services study: Initial observations. *ARL: A Bimonthly Newsletter of Research Library Issues and Actions*. 230-231, pp. 21-22. Available from: http://www.arl.org/bm~doc/arlbr230231.pdf

[55] JENG, J., 2005. Usability assessment of academic digital libraries: Effectiveness, satisfaction, and learnability, *Libri*, **55**, pp. 96-121

[56] KASKE, N. and ARNOLD, J., 2002. *An Unobtrusive Evaluation of Online Real Time Library Reference Services*. Library Research Round Table, American Library Association. Annual Conference, Atlanta, Georgia. Available from: http://www.lib.umd.edu/groups/digref/kaskearnoldunobtrusive.html

[57] KING RESEARCH, 1990. *Keys to success; performance indicators for public libraries; a manual of performance measures and performance indicators*. London: HMSO

[58] KONINKLIJKE BIBLIOTHEEK, 2004. *Annual report, Special collections.* Available from: http://www.kb.nl/bst/jaar/kb2004/onzecollectie3-en.html

[59] KONINKLIJKE BIBLIOTHEEK, 2005. *Annual report 2005, Performance indicators*. Available from: http://www.kb.nl/bst/jaar/kb2005/bedrijfsvoering5-en.html

[60] KONINKLIJKE BIBLIOTHEEK. *Strategic plan 2006-2009*. Available from: http://www.kb.nl/bst/beleid/bp/2006/kp-strategicplan.pdf

[61] KUPERSMITH, J., 2006. *Library terms that users understand.* Available from: http://www.jkup.net/terms.html

[62] LA TROBE UNIVERSITY, 2006. *Seating Usage Survey 2006*. Available from: http://www.lib.latrobe.edu.au/about/surveys/seatingsurvey2006.pdf

[63] LAEVEN, H. and SMIT, A., 2003. A project to benchmark university libraries in the Netherlands, *Library Management*, **24** (6/7), pp. 291-304

[64] LibQUAL+™. Available from: http://www.libqual.org/

[65] LIBRARY AND ARCHIVES CANADA. *Interlibrary loans (ILL) at Library and Archives Canada*. Available from: http://www.collectionscanada.gc.ca/ill/s16-200-e.html

[66] LIBRARY AND ARCHIVES CANADA, 2006. *Cataloguing priorities*. Available from: http://www.collectionscanada.ca/obj/s17/f2/15-e.pdf

[67] LOR, P., 1992. Measurement of suppliers' cost in a large decentralized interlending system. *South African Journal of Library and Information Science*, **60** (3), pp. 7-14

[68] MCCLURE, C., *et al.*, 2002. Digital reference completion time. In *Statistics, Measures and Quality Standards for Assessing Digital Reference Library Services: Guidelines and Procedures*. Information Institute of Syracuse and Florida State University, pp. 21-22. Available from: http://quartz.syr.edu/quality/

[69] MONTGOMERY, C.H. and KING, D.W., 2002. Comparing Library and User Related Costs of Print and Electronic Journal Collections: A First Step Towards a Comprehensive Analysis, *D-Lib Magazine*, **8** (10). Available from: http://www.dlib.org/dlib/october02/montgomery/10montgomery.html

[70] MORRIS, D.E., 1992. Staff time and costs for cataloguing. *Library Resources & Technical services*, **36** (1), pp.79-92

[71] MORRIS, D.E., and OSMUS, L., 1992. Serials cataloguing time and costs: results of an ongoing study at Iowa State University. *The Serials Librarian*, **22**, pp. 235-248

[72] MORRIS, D.E., REBARCAK, P. and ROWLEY, G., 1996. Monographs acquisitions: staffing costs and the impact of automation. *Library Resources & Technical Services*, **40** (4), pp. 301-318

[73] MORRIS, D.E., and WOOL, G., 1999. Cataloguing: librarianship's best bargain. *Library Journal*, **124** (11), pp. 44-46

[74] MORRIS, D.E., *et al.*, 2000. Cataloguing staff costs revisited. *Library Resources & Technical Services*, **44** (2), pp. 70-83

[75] NATIONAL DIET LIBRARY. *Priority objectives for FY2005 and their Evaluation*. Available from: http://www.ndl.go.jp/en/aboutus/vision_priority_fy2005_eva.html

[76] NATIONAL DIET LIBRARY. *Service Standards for FY2006 and their Evaluation*. Available from: http://www.ndl.go.jp/en/aboutus/vision_service_FY2006.html

[77] NATIONAL DIET LIBRARY, 2007. *Service Improvements Utilizing the Remote user surveys (FY2003-2006*). Available from: http://www.ndl.go.jp/en/aboutus/user_surveys_fy2006_01.html

[78] NATIONAL DIET LIBRARY, 2007. Exhibitions at the International Library of Children's literature. *In Annual Report FY2006,* p. 56 [3.3.4(3)]. Available from: http://www.ndl.go.jp/jp/publication/annual/h18/nen18.pdf (Japanese text only)

[79] NATIONAL LIBRARY OF AUSTRALIA, 2004. *Service Charter*. Available from: http://www.nla.gov.au/charter/

[80] NATIONAL LIBRARY OF AUSTRALIA, 2007. *46th Annual Report 2005/06*. Available from: http://www.nla.gov.au/policy/annrep06/index.html

[81] NATIONAL LIBRARY OF AUSTRALIA, *Reader Services Policy*. Available from: http://www.nla.gov.au/policy/readerservices.html.

[82] NATIONAL LIBRARY OF NEW ZEALAND, 2004. *Statement of Intent 2003/04*. Available from: http://www.natlib.govt.nz/en/about/2pubsoi03.html

[83] NATIONAL LIBRARY OF NEW ZEALAND, 2006. *National Library Visitor Survey.* Available from: http://www.natlib.govt.nz/catalogues/library-documents/nlnz-visitor-survey-winter06

[84] NATIONAL LIBRARY OF NEW ZEALAND, 2007. *Annual Report 2006*. Available from: http://www.natlib.govt.nz/downloads/Annual_Report_2006.PDF

[85] NATIONAL LIBRARY OF NEW ZEALAND, 2007. Exhibitions. In *Statement of Intent 2006-07*. pp. 29-31. Available from: http://www.natlib.govt.nz/about-us/corporate-publications-research/our-annual-reports

[86] NATIONAL RESOURCE SHARING WORKING GROUP, 2001. *Interlibrary Loan and Document Delivery Benchmarking Study*. Available from: http://www.nla.gov.au/initiatives/nrswg/benchmarking.html

[87] NIELSEN, J., 1994. *Ten Usability Heuristics.* Available from**:** http://www.useit.com/papers/heuristic/heuristic_list.html

[88] OBST, O., 2003. Patterns and costs of printed and online journal usage, *Health Information and Libraries Journal* 20 (1), pp. 22-32

[89] PISANSKI, J. and ŽUMER, M., 2005. National library websites in Europe: an analysis, *Program: Electronic Library and Information Systems*, **39** (3), pp. 213-226

[90] POLL, R. and TE BOEKHORST, P., 1996. *Measuring quality: international guidelines for performance measurement in academic libraries*. München: Saur, (IFLA publications, 76)

[91] POLL, R., 2000, Three years of operating ratios for university libraries, *Performance Measurement & Metrics*, **1** (1), pp. 3-8

[92] REILLY, J.M. *et al.*, 1995. *New tools for preservation: assessing long-term environmental effects on library and archives collection.* Washington, DC: Commission on Preservation and Access

[93] REYDEN, VAN DER, D., 2007. The Preservation Directorate at 40, *Library of Congress Information Bulletin*, **66** (5). Available from: http://www.loc.gov/loc/lcib/0705/directorate.html

[94] ROBINS, D, and KELSEY, S., 2002. *Analysis of web-based information architecture in a university library: navigating for known items, Information Technology and Libraries*, ***21*** (4), pp. 159-170. Available at: http://www.ala.org/

[95] ROYAL LIBRARY OF DENMARK. *Årsberetning 2006*. Available from: http://www.kb.dk/en/kb/aarsberetning/annual_report_2006.html

[96] RUSA. Reference and User Services Association, 2000. *Guidelines for information services.* Available from: http://www.ala.org/

[97] SAW, G. and CLARK, N., 2004. Reading Rodski: User Surveys Revisited, *IATUL Proceedings* 14. Available from: http://www.iatul.org/doclibrary/public/Conf_Proceedings/2004/Grace20Saw20and20Nicole20Clark.pdf

[98] SAXTON, M., and RICHARDSON, J.J., 2002. *Understanding reference transactions: Transforming an art into science*, *Amsterdam: Academic Press*

[99] SCHONFELD, R.C. *et al.*, 2004. Library Periodicals Expenses: Comparison of Non-Subscription Costs of Print and Electronic Formats on a Life-Cycle Basis, *D-Lib Magazine* 10 (1). Available from: http://www.dlib.org/dlib/january04/schonfeld/01schonfeld.html

[100] SCONUL. *Survey Templates.* Available from: http://www.sconul.ac.uk/groups/performance_improvement/surveys/templates.html

[101] SCONUL, 2006. *SCONUL Annual Library Statistics 2004-2005*. London: Society of College, National & University Libraries.

[102] DE STEFANO, P. and WALTERS, T.O., 2007. A natural collaboration: preservation for archival collections in ARL libraries, *Library Trends*, **56** (1), pp. 230-258

[103] STEIN, J.E., 2001. Measuring the performance of ILL and document supply, *Performance Measurement and Metrics*, 2 (1), pp. 11-72

[104] The Online Manuscripts Catalogue. Available from: http://www.bl.uk/catalogues/manuscripts/MSSRETRO.ASP

[105] TÖRRÖNEN, H., 2005. First Stage of the National Collection Condition Survey Completed. Brittle paper a major problem. International Preservation News. *A Newsletter of the IFLA Core Activity on Preservation and Conservation*, **35**, pp. 20-24. Available from: http://www.nationallibrary.fi/infoe/newsarchive/uutiset20022006/2004/22092004.html

[106] TOKUHARA, N., 2008. ISO/TR 28118: Establishment of performance indicators for National Libraries, *Current Awareness*, **295**, March 20, 2008. Available from: http://current.ndl.go.jp/ca1653 (Japanese text only)

[107] UNIVERSITÄTS- UND LANDESBIBLIOTHEK MÜNSTER, 2003. *Nutzungsanalyse des Systems der überregionalen Literatur- und Informationsversorgung*, Teil **2**. Available from: http://www.dfg.de/forschungsfoerderung/wissenschaftliche_infrastruktur/lis/download/ssg_bericht_teil_2.pdf

[108] VAN HOUSE, N.A., WEIL, B.T. and MCCLURE, C.R., 1990. *Measuring academic library performance; a practical approach*. Chicago: American Library Association

[109] VATTULAINEN, P., 2003. *Performance of Interlending in Nordic Academic Libraries*: *report for NORDINFO Board*. Available from: http://inet.dpb.dpu.dk/nvbf/perform.pdf

[110] VOORBIJ, H. and LEMMEN, A., 2006. Examining the coverage of a national deposit library: a case study in the Netherlands, *Libri*, **56** (3), pp. 191-199

[111] VOORBIJ, H. and LEMMEN, A., 2007. Coverage of periodicals in national deposit libraries, *Serials Review*, **33** (1), pp. 40-44

[112] WALKER, A., 2006. *Basic preservation guidelines for library and archive collections*, National Preservation Office. Available from: http://www.bl.uk

[113] WALKER, A. and FOSTER, J., 2006. *Knowing the need, a report on the emerging picture of preservation need in libraries and archives in the UK, National Preservation Office*, ed. by M. Feeney. Available at: http://www.bl.uk/

[114] WARD, S. *et al.*, 1995. *Library performance indicators and library management tools*. Luxembourg: European Commission DG XIII-E3 (EUR 16483 EN), (items F 94, F 96, F 97, F 98)

[115] WHITLATCH, J.O., 2000. Purpose of the Evaluation. In *Evaluating Reference Services: A Practical Guide*. Chicago: American Library Association, pp. 1-7

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