Standardized measures for the changing information environment

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Why should we standardize the measures?

What standards ensure (ISO)

- safety
- quality
- reliability
- compatibility
- efficiency
- economy
- interoperability
- effectiveness
What library standards want to achieve

- to spread the knowledge about existing tested methods and practices
- to standardize
  - terminology and definitions
  - methods of data collection
  - methods of analyzing the data

with the aim of comparing and aggregating results
### ISO Technical committee 46: Information and documentation

#### Subcommittee 8: Quality, statistics and performance evaluation

<table>
<thead>
<tr>
<th>WG 2: International library statistics</th>
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<tr>
<th>WG 4: Performance indicators for libraries</th>
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<tbody>
<tr>
<td>Integration of the standards. ISO CD 11620 coming</td>
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<th>WG 5: Price indexes</th>
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<th>WG 6: Statistics on the production of books</th>
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Stages of an ISO standard

- Approved New Work Item
- Working Draft
- Committee Draft (CD)
- Draft International Standard (DIS)
- Final Draft International Standard (FDIS)
- Standard

voting required
Assessing quantity

(ISO 2789)
Assessing quantity (ISO 2789)

In terms of
- collection size
- number and type of users
- use of services
- staff
- space
- equipment
- training
Electronic library services: counting use

- problem of counting
  - can be counted manually
  - electronic collection
  - web-site
  - OPAC
  - Internet access via the library
  - electronic document delivery
  - online reference
  - user training on electronic services
Electronic collection

- databases
- computer files
- electronic serials
- digital documents

- full text
- abstract and indexing
- other
- eBooks
- electronic patents
- networked AV-documents
- other

ISO 2789
Forms of use

- sessions
- rejected sessions
- contents or records download
- session time
- searches
- Internet sessions
- virtual visits

inside the library
outside the library, but inside the institution/population
from outside the institution/population

ISO 2789
ISO 2789: definitions of use forms

**Session**
- Session time: period between log-in and implicit or explicit log-off
- Successful request of a database or the online catalogue
- Content unit being successfully requested
- Records downloaded
- Descriptive record being successfully requested
- Internet sessions: Internet access by a user from inside the library

**Search**
- Specific intellectual query
- Contents downloaded

**Rejected Session**
- Unsuccessful request exceeding the simultaneous user limit
ISO 2789: virtual visits

a user's request on the website from outside the library premises

- web browser visit
- IP visit
- home page visit
ISO 2789: Open questions

- **Boundaries of electronic resources**
  "The physical boundaries, e.g. a file, may not correspond to the “content” boundary, e.g. multiple files may make up a given resource. Multimedia resources may stand alone as resources or be combined into a single resource."

- **Tracking usage of library linked free resources**
  Libraries until now in most cases do not assess, whether links have been followed. In ISO 2789 only optional.

Collecting data of electronic collections and services is not yet frequent in national statistics.
Assessing quality
(ISO 11620)
Assessing quality (ISO 11620)

In terms of

- performance
- features
- reliability
- conformance
- durability
- currency
- serviceability
- aesthetics

- usability/accessability
- competence
- responsiveness
- communication
- speed
- variety of services
- perceived quality
ISO 11620: Library performance indicators

New structure: Balanced scorecard

- resources, access, infrastructure
- use
- efficiency
- potentials and development
Indicators for traditional services

ISO 11620

resources, access, infrastructure

- shelving accuracy
- median time of document delivery from closed stacks

use

- collection turnover
- loans per capita
- in-library use per capita

efficiency

- cost per loan

potentials, development
Indicators for "hybrid" services

ISO 11620

resources, access, infrastructure

- percentage of required titles in the collection
- speed of interlibrary lending

use

- library visits per capita (including virtual visits)
- user attendances at training lessons per capita
- percentage of population reached
- user satisfaction

efficiency

- cost per library visit
- cost per user
- median time of document acquisition
- median time of document processing
- correct answer fill rate

potentials, development

- attendances at training lessons per staff member
Indicators for electronic services

ISO 11620

resources, access, infrastructure

- percentage of rejected sessions
- public access workstations per capita
- number of content units downloaded per capita
- percentage of information requests submitted electronically
- workstation use rate

use

- cost per database session
- cost per content unit downloaded

efficiency

- percentage of expenditure on information provision spent on the electronic collection
- percentage of library staff providing and developing electronic services

potentials, development
ISO 11620

New indicators: Topics

the library as meeting and working place
  • user area per capita
  • attendances at library events per capita

the external user
  • percentage of total lending to external users

the importance of staff
  • staff per capita
  • employee productivity in media processing

financing the library
  • ratio of acquisitions expenditure to staff costs
  • percentage of library means received by special grants or income generation
  • percentage of institutional means allocated to the library

BIX-WB: library index for academic libraries
(http://www.bix-bibliotheksindex.de)
ISO 11620: problems

Combining traditional and electronic services in one indicator

- reasons for:
  - to give an integrated view
  - to make up for a decline in the traditional service

but:
- a website visit is no walk-in visit
- a download is no loan

No indicators as yet for:

- website quality
- the library's link collections
### Possible performance indicators for website quality

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Method</th>
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<tr>
<td>Percentage of successful searches</td>
<td>online survey, interview after search, tests, observation</td>
</tr>
<tr>
<td>Number of clicks necessary to find a specified information</td>
<td>tests, cognitive walk-through, proxy users</td>
</tr>
<tr>
<td>Percentage of important issues accessible via the homepage</td>
<td>cognitive walk-through</td>
</tr>
<tr>
<td>Number of pages not visited during a specified time</td>
<td>log analysis</td>
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what ISO 11620 has so far:

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<th>Method</th>
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<td>Number of website visits per capita <em>(data in: library visits per capita)</em></td>
<td>log analysis</td>
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Possible performance indicator for links on the library's website

- number of times links are followed
Assessing impact/outcome
In terms of

- knowledge
- information literacy
- academic or professional success
- social inclusion
- individual well-being

changes in skills, competences, attitudes, behaviour
Use statistics as measures of impact

- Users are familiar with the use of electronic resources and services

- electronic media
  - frequency of use
  - location of use
  - forms of use (sessions, searches, downloads)
  - range of resources used
- use statistics of a service (e.g. online delivery)
- change of use in traditional services
- change in remote use
- number of new users
  - that had not used the library
  - that had not used the same service in traditional form
- percentage of the primary user group using E-services
Methods for assessing impact

Qualitative measures

- **Asking users** (print or online surveys, focus groups, interviews)
  - What knowledge have they of library services?
  - How do they use services (frequency, location of use)?
  - Did they find the services useful?
  - Had they problems?
  - Did they find training sessions useful?
  - Have they improved their skills by using library services? (self-assessment)

Exit surveys most useful
Methods for assessing impact

Qualitative measures

- Asking academic teachers
  - Do library services support teaching and research?
  - Do they encourage students to use new services?
  - For what purpose do they use new services?

- Asking library staff
  - Change of user skills after training on specified services?
  - What help do users need for what service?

anecdotal evidence
Methods for assessing impact

Quantitative measures: tests, observation, data mining...

- **tests**: can assess user skills before and after training on a service

- **performance monitoring / data mining**: can document changes in searching

- "**mystery shoppers**": can report on failures or success and on improvements they perceived in their skills

- **analysis of documents and bibliographies compiled by users**: Is there a change in
  - resources used
  - accuracy of citations
  - number of E-resources cited?
## Indicators for impact/outcome

### Information literacy
- Skills / competences improved after training
  - Surveys
  - Tests
- Correlation of library teaching attendances to student retention rate
  - Survey

### Importance of the local library
- Estimation of the importance
  - Survey
- Percentage of citations in publications in the local library collection
  - Manual counts / survey

### Academic or professional success
- Correlation of library services use to success
  - Use counts / Success data
- Correlation of library services use to number / citation of publications
  - Use counts / Citation index
Indicators for impact/outcome

Social inclusion

- Skills /competences acquired via library services
- Percentage of potential users in a group using library services after promotion activities (groups specified as to ethnic origin, age, employment status...)

Financial value of library services

- Estimation of time saved
- Willingness-to-pay
Standardization of impact measures?

- projects still on the way
- IFLA Section Statistics and Evaluation has instituted a working group
- Bibliography of projects and literature:

  http://www.ulb.uni-muenster.de/outcome
Standardized measures for the changing information environment can show:

- The impact of the changing environment on the library:
  - Changes in types of information resources used
  - Changes in the structure of information users
  - Changes in information seeking ways

- The importance of the library in the changing environment for:
  - Social inclusion
  - Information literacy
  - Propagation of new information resources
  - Direct, effective, and time-saving access to information
The changing information environment

The most incisive change that ever happened?

changes 1950 to 1980

• **impossible**: the opening of the stacks
  • free access
  • self-service borrowing and returning
• **dangerous for books and readers**: the copying machines
  • taking notes becomes outdated
• storage room saved
• **fatal for the holy catalogue**: copy cataloguing
  • minimizing effort
  • sharing experience

open, user-friendly, efficient, more resources available:
we are going the same way now
No matter how much the world changes, cats will never lay eggs.

Bambara Proverb