

Improving practices. Statistical standards in global libraries

Tord Høivik

LATINA Lab, Oslo and Akershus University College, Oslo, Norway.
tordhoivik@gmail.com



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Abstract:

Standards are recommendations. Library standards are recommended ways of working in libraries. Standards often differ from practices, or the ways libraries actually work. This is not a problem in itself. The purpose of standards is not to describe, but to improve practices. But standards have no value in themselves. Standards are only interesting if they change the way librarians actually do their work.

We may distinguish between active and passive standards. Nearly all standards are developed by committees that include practising librarians. But active standards interact with their environments. They are openly discussed, widely applied and frequently revised by the library community. Passive standards are locked up in documents that few practitioners read or care about. For many years library organizations have tried to change the statistical practices of librarians through committees, concepts and proposals from the top. This approach seldom works. The introduction of standards is a political rather than a technical process. Standardization incurs costs and affects peoples' interests. Librarians are not willing to change their routines just because committees without power or money say so. To move faster we have to shift from a top-down to a bottom-up approach. That means to start with current statistical practices and to improve existing data and procedures, step by step and year by year.

The paper presents conceptual and empirical evidence for this thesis. We look at the interaction between standards and practices in library statistics, with examples from IFLA, OCLC and ISO. A longer version of the paper includes information from countries that have tried to introduce statistical standards during the last decade.

Keywords: Library statistics, Performance indicators, Statistical standards.

Strategies for change

The Statistics and Evaluation Section works to promote the collection and use of statistics (1) *in the successful management and operation of libraries* and (2) *in the demonstration of the value of libraries outside the profession*. These goals require *definition, standardization, collection, analysis, interpretation, publication and use of statistical data*. I think it is fair to say that international work in the field of public library statistics has tended to concentrate on definitions, standards and general

methods. These topics are relatively independent of the social context. But we cannot study the collection, analysis, interpretation, publication and actual use of public library statistics without looking at concrete countries and cases. The actual situations we find on the ground, going from Germany to China to Mexico to South Africa, say, are extremely different. Many countries lack statistical systems that collect library data at the national level. These communities need methods for regular data collection that interested libraries can manage on their own. In many countries there are also great differences between urban and rural areas.

Some problems are universal, however. Library authorities spend too much effort on repetitive data collection – and far too little on professional presentation and analysis of the results. As a consequence, ordinary librarians take little interest in the statistics. Information is scattered and hidden. Library researchers and library agencies need to put their methods, their data and their discussions on the open web. When this is not done, ordinary librarians will lack access to the results of empirical studies. Collective learning suffers. The debate among experts is also hampered by the scarcity of shared empirical data. Instead of struggling with real statistics they tend to spend their time on concepts, rules and indicator proposals. Conceptual work replaces empirical work.

Diversity and innovation. Professions need a combination of uniformity and diversity. The purpose of standards is not to force everybody to do exactly the same things in exactly the same way. Professions introduce standards in order to develop. Standards support collective creativity. If we do some things the same way it is easier to communicate and share the things we do differently: new concepts, data and procedures. Standards are tools for innovation.

This paper deals with statistical standards. The author looks at the current status of library statistics from three perspectives: as a statistician, as a sociologist and as a library teacher and researcher. My main conclusion may be unpopular. For many years we have tried to change the statistical practices of librarians through committees, concepts and proposals from the top. This approach basically does not work. We have to change from a top-down to a bottom-up approach. Change can be **encouraged** at the top, but must be **realized** at the bottom. That has both a negative and a positive side. We can start tomorrow. But we have to do the work ourselves

Support from the top is welcome, of course. But the idea of uniform statistical standards with global application is unrealistic. At the moment, the quantity and quality of statistical information on libraries varies enormously between countries. A handful of countries run advanced statistical systems with comprehensive coverage of their public, academic and special libraries. School libraries, which tend to be small and poorly staffed, is still a statistical problem, however. The development of library statistics is highly correlated with the development of libraries as such. Within countries, professional libraries that serve demanding communities, such as researchers, physicians, lawyers and parliamentarians, may reasonably be staffed and equipped. At the same time public libraries may be few, weak or absent.

If we consider continents, Africa faces the biggest problems. Elisha Chiware (2012) points out that (1) There is no standard on the type of library statistics to be collected; (2) There is no shared position on how data must be collected, analyzed, presented and applied; (3) There is a wide gap in the type and frequency of statistics between technologically advanced libraries and those less fortunate; (4) There is no national or regional African database of comparative library statistics available.

Levels of development. But let us look more closely at the global situation. I would distinguish between four levels of development at the national level. The least developed countries (library-wise) have no national statistics whatsoever. In a few cases they publish some scattered library data in statistical yearbooks or reports on cultural statistics. But the information is hard to find and hard to use (I have tried). People who are interested in international library statistics do not have time to visit the specialized institutions that receive such publications - such as national statistical agencies - to excavate a few numbers from each country.

The second group consists of countries that try to collect national statistics, but are hampered by uneven and fragmented library systems. The public library sector tends to have greater difficulties than academic and special libraries. But even the latter library types may suffer from a lack of national-level coordination. Many Latin American countries belong to group 2. In Africa, South Africa is an interesting case, since the country combines a strong industrial and urban economy with a large and underdeveloped rural sector. South Africa has a vibrant library community and plays an important role in regional training and development.

The third group consists of countries with well-developed library systems and some good statistics at the national level, like Great Britain, Germany and Italy, much of Eastern Europe, the United States, Chile, Singapore and a few others. The main problem, seen from abroad, is the lack of extensive, user-oriented web publishing of the data. The most advanced countries seem to be the Nordic group (Finland, Norway, Denmark, Sweden), the Netherlands and New Zealand. Canada (some states) and Australia (some states) could be added. These countries and states take a political interest in measuring library activities and use the web actively to present and disseminate library statistics.

Professional discussions. Library statistics is a rather narrow field. Practising librarians are mostly concerned with official library statistics. Research and project data play a minor role. Working professionals will discuss the problems they face at work. As long as these problems are local, or experienced as local, the discussions will be local. The statistical debates that go on in France, in Germany, in Great Britain and in Italy tend to address national rather than global issues. They are, of course, conducted in the local language. Even in Scandinavia, where Norway, Sweden and Denmark have rather similar library systems, and the three languages are mutually understandable, library debates remain local.

But the web makes it possible to share these discussions. The main strategy, or set of actions I can believe in, are: (1) study the statistical system in your own country; (2) publish that information on the web; (3) choose a place that is easy to locate and easy to link to; (4) report on current library statistics from time to time; (5) interpret your own data from time to time. It is impossible to develop good global statistics without good local statistics. The road to global data go through local institutions. International statistical standards can still be useful. But committees that propose statistical standards can not be a substitute for communities that tests, implements and evaluates statistical procedures in practice. I strongly believe that the field of library statistics needs more professional debate, based on more systematic data collection and wider sharing of statistical information and analyses.

By *professional* I mean peer-based conversations guided by statistical, sociological and economic reasoning rather than by bureaucratic, ideological, or political arguments. The web makes it much easier to collaborate on a horizontal rather than a vertical basis. Library statistics are developing in many parts of the world. A distributed network of volunteers (crowdsourcing) with a tiny bit of coordination might work reasonably well.

Professional discussions are clearly happening in a number of countries. In Germany, the library index *BIX* is well established both in the public and in the academic library sector. Libraries participate on a voluntary basis. But steady work with real data over many years has made an impact. In its *Global Libraries Program*, the *Bill and Melinda Gates Foundation* insists on systematic data collection and evaluation. A dozen countries have benefited from this hard-nosed approach -and could be used as models by other library communities. See Sawaya (2009) for an overview. In the United States, the new *LJ Index* for public libraries is professionally designed and very well presented. Recently a coalition of library and local government organizations, including the Gates Foundation, launched the *Library Edge* initiative in 2011. Edge is developing a rating system comprised of benchmarks and indicators designed to work as an assessment tool. The instrument looks very well designed: balanced, clear and comprehensive. In academic libraries, the *LibQual* survey of user satisfaction is well established – and has contributed to a culture of assessment.

Global statistics. Efforts have been made to establish global library statistics. But a centralized approach, with one big data base, standardized reports, a fixed set of indicators, an elected governing board, and so on is not sustainable under today's conditions. The situations on the ground are just too different for a uniform approach to work. UNESCO produced international library statistics a long time ago, but discontinued the series. The statistical basis was too poor. IFLA has tried, and failed, to motivate UNESCO to start again (Ellis et al., 2009). OCLC has tried, and failed, to create a global collection of library statistics.

Let me also add that these initiatives should be praised rather than criticized. Failures are useful. Unless we accept the risk of failure, and are willing to learn from failure, we are stuck. International statistics rely on national statistics. In this situation information from countries at levels one to three must be gathered locally, by people who live in the country, who are familiar with its statistical system and who can follow the constant changes that are likely to occur. All these countries are trying to improve their systems, from wherever they happen to be. Level four is different. Information from countries at this level is available on the web to all interested parties. A fair number of countries now make detailed library statistics available on the web. I am aware of the following, but there may be others: the Nordic group: Denmark, Finland, Norway, Sweden; the Netherlands; the Commonwealth group: Australia, Canada, New Zealand.

IFLA World Report

The *IFLA World Report* on libraries is an excellent initiative. The Report is obviously *work in progress*. There are many issues about data and documentation that we have to address. But the new series provides a great opportunity to develop shared data, methods, concepts and understanding of libraries from an evidence-based perspective. It offers a focus that makes extended, learning-oriented professional debate *possible*.

When we study *global* statistics, the first thing we want to know about a country is the number of libraries. That is easier said than done. The two main problems are: The branch problem: are we counting the number of library organizations – each headed by a director – or the number of distinct library branches? The size problem: are we counting organizations above a certain size – or do we include anything (fifty books on a shelf?) that somebody *chooses* to call a library?

Let me give some examples. The IFLA World Report for 2010 says: - *According to the American Library Association's Library Fact Sheet, there are an estimated 16 549 public libraries in the United States.* It adds: *The 2007 Report indicated 9 207 public libraries, but perhaps this was calculated on different grounds.* The comment is correct: the United States provides both the number of public library systems – about nine thousand units – and the number of library branches. The latter, which includes main or central libraries, lies around thousand. The 2007 IFLA Report used the former (9.207) while the 2010 reported the latter number (16.549). Even within the Nordic area, the data submitted to IFLA differ a lot – and include some glaring errors. It is clear that these data can not be used for comparative purposes, since the counting procedures differ from country to country. And these are countries that have some of the best library statistics in the world. For Norway, the Report states that the *Estimated number of public libraries in the country: 807 + 34 mobile libraries.* This refers to library branches or outlets. The number of library systems is about 430: one for each municipality.

The report also says that since the 2007 edition, *the number of public libraries in Norway has increased to 841, with 807 public libraries and 34 mobile libraries (according to the Norwegian Archive, Library and Museum Authority).* This is plainly a mistake. The number of independent libraries equals the number of municipalities. This number has changed very little between 1967 (454 units) and 2013 (428). The number of service points has, however, decreased steadily from 1983 (1395 branches) till today (about 740).

The category of *government funded research libraries* shows strange aberrations. Iceland, a country with barely three hundred thousand people, had fifty-two such libraries, the Report says. Sweden, with nine million inhabitants, had thirty-four. The two countries cannot be counting the same type of entity. Mistakes can also be a problem. *Sweden has an estimated 2 090 public libraries, including 290 main libraries and 1 001 branch libraries*, the Report says. *In 2007, an estimated 1 348 public libraries were reported*. The mistake is very similar to those made by medieval scribes. When the data were entered, the number of main libraries (290) caused the "scribe" to write 2 090 instead of 1 291. For Norway, the number of government funded research libraries was listed as unknown. But these numbers are published every year and are quite easy to find - if you have local knowledge. To retrieve the number one must look at the Statistical Yearbook from Statistics Norway rather than the yearbook from the official library authority.

The examples listed were included in a blog post that I published in August 2010. A brief discussion followed. Some good points were made by an unknown correspondent (JRO): - *Definitions of what a library, a branch library, a service point etc. are, differ fairly commonly in the literature. However, it seems to me that the data were supplied by official respondents from the countries (except possibly in the case of Iceland, where the respondent requested to remain anonymous), and in most cases they (most probably the respondents?) quoted the sources from which they got the data. It seems to me that the report does not want to compare these numbers in any detail in any case; ... the report seems to me to have simply reported the data that the respondents provided....*

My personal conclusion was: In the World Report, what is needed is more work with the data – adding value to the “raw” reporting from the associations. The phrasing of the Report shows, I think, that the editors are aware of this. As a statistician, I see the World Report as valuable because it provides a space where we can start discussing issues related to definitions, procedures and interpretation of library statistics in a real world context.

The Report was not designed as a report on statistics, and the Statistics and Evaluation Section (where I represent Norway) has not been involved in the editing as far as I know. At the moment, only the number of libraries in different categories is covered. It is quite interesting to see how such a seemingly trivial question immediately brings up issues of principle and of data quality that must be faced in order to use the statistics in a meaningful way. I hope the Report will aim at a gradual expansion of its statistical coverage, along the broad lines of the Global Statistics Project that the section recently completed. It is very important to anchor such projects in continuing work with real data.

A few years ago, OCLC started to compile library statistics at the global level. In my view, this was a hopeless task from the start. In the full version of this article I explain why and illustrate the difficulties with data from Norway. OCLC has now dropped the project. The library statistics that OCLC offered for Norway could not be used for serious work. The quality was far too uneven. OCLC faced the same problem that UNESCO faced. Countries with weak library systems have hardly any statistics at all. Countries with stronger systems have better statistics, but they do not publish them in a form that is convenient for outsiders.

Concepts, definitions and procedures often differ from country to country and sometimes within countries as well. To collect and interpret, say, French or German or Polish library statistics, you need access to their statistical sources, an understanding of their social systems (libraries, schools, universities, volunteers) and, of course, a smattering of the languages. Countries with good library systems have good statistics, and put the data on the web, but you still have to handle the languages. Instead, OCLC tried to get its information from secondary sources like: *IFLA World Report*, the LibEcon report and the *World Encyclopedia of Library and Information Services*

That does not work. All compilers face the same problems. The local knowledge is missing. Quality can only be realized country by country, by people who are willing to spend a fair amount of time *monitoring* what goes on. Even for little Norway, that takes an effort. The next step: processing the data so that others can *use* them, takes even more time. But that is the only way, I think, to

produce workable statistics in the global library field.

ISO standards

Comparative library statistics depend on standardization. If two libraries define concepts like book, loan, visit, and reference question in different ways, they will be counting different entities. Their statistical data will not be comparable. The same applies to countries that use different definitions. Two international standards are central. ISO standard 2789 on international library statistics defines the basic concepts involved in statistical observation, counting and measurement. ISO standard 11620 on library indicators recommends indicators that could actually be used to compare libraries, library systems, regions and countries.

Standards should be more than suggestions and proposals. They should express and codify best practices in their subject areas. If the standards are not based on existing professional practice, but represent a call for innovation, their effect ought to be monitored. Standards that are recommended to, but not applied by, the library community represent a problem that the designers need to address. Like any other learning community, we must learn from our experiences. In the last few years I have tried to look at national and international library statistics from this perspective. I have been surprised by the results. The moment we start to look at use rather than rules, we find substantial gaps between proposals and practices. Let me take two examples.

Public seating. ISO Standard 11620:2008 proposes a set of performance indicators for libraries. Two of these are Library visits per capita (B.2.2.1) and Public seating occupancy rate (B.2.3.1). Visits per capita is a well-known indicator. A simple Google search for the exact string (“library visits per capita”) demonstrates (what we already know) that the first indicator is widely used for planning, comparisons and advocacy. More than twenty thousand documents were found. Eight of the top ten contained or referred to empirical data about the indicator. A similar search for the second indicator shows no sign of empirical use. Only forty web documents were indexed by Google (checked June, 2013). None of these provided or referred to empirical data.

I am not saying that nobody calculates occupancy rates. I have done a bit of empirical work in this area myself. I hope to do more. I have also found a few professional articles that discussed such rates. But the amount of published empirical work is so limited that it does not show up in a Google search. I interpret this as a lack of demand, or interest, in the second indicator among the professionals we are trying to support. I see this as an issue that ought to be addressed by the “library indicator community”. Proposals without practice are paper tigers.

Meaning and measurement. ISO standard 2789 was last revised in 2006. A new version will probably appear in 2013. Voting on the final draft started in August 2012. Some countries find it useful to involve people outside the national representatives in the drafting process. The comments below, on the concept of library visits, are based on the draft which is being circulated for comments.

The number of library visits per capita is a fraction (ratio). The number of visits is the numerator. The size of the population is the denominator. Before we can employ the indicator, we need to answer four questions. The first two are conceptual: what do we mean by a library visit? what do we mean by the (relevant) population? The other two are practical: how do we observe (measure) a library visit? how do we observe (measure) the population? Note that meaning and measurement may be rather different processes.

The ISO standard looks ambiguous. Meaning and measure are not clearly separated. A visit is simply defined (2.2.40) is as a person (individual) entering the library premises. But the procedure (6.2.10) adds: where necessary, the count should be adjusted to deduct entrances and exits of library staff, and of any persons visiting other institutions or departments situated within the library building. Personally and intuitively I would define a genuine library visitor as a person who enters

the library premises in order to use the library's professional facilities as a user. This concept excludes the comings and goings of the library staff, visits by janitors, sales representatives, postmen and others who enter for other (professional) purposes, visits by persons who enter for non-library purposes: coffee shopping, free toilets or convenient short-cuts through the building.

When we set up a system to register visitors it may be *impractical* to distinguish customers from people who just happen to enter for other reasons. But that is not a reason to be vague about the concepts involved. If the actual measurement is carried out by turnstile count or electronic counter, we do not measure visits. We measure the number of turns or the number of times the electronic beam was interrupted (divided by two). These are substitutes for the real thing, and there are various sources of errors. For instance: persons who enter for other purposes, persons who walk closely together (so that two count as one), children who are carried (two count as one), persons who walk in and out several times, such as playful children, non-persons that break the electronic beam, such as dogs and suitcases.

There may be additional errors due to the actual location of the turnstile or the electronic device. With manual counts, such errors can mostly be avoided. If the library suspects substantial errors of measurement (above +/- 5%, say), the counter should be calibrated (by running a manual count in parallel for a suitable period of time).

Conclusion

I have already stated my thesis. Our present approach to statistical standards and indicator development does not work. I am not giving up on statistics. I believe that librarians have a lot to gain from quantitative methods and numerical arguments. But we must change our development model in order to make a real impact. A centralized, top-down approach, where we start with the things we want to measure - and postpone the actual measurement - does not work. We have tried this approach many times, with very limited success. The alternative is a decentralized, bottom-up approach, where we start with the statistics librarians actually use on the job - and cooperate with the libraries in question to improve their established practices.

The management approach is indirect. People with authority tells other people to change. The difficult development work is left to others. The social approach is direct. People promote change by changing their own ways of working. I am not saying that the first approach is wrong and the second one right. I am just saying that the top-down approach has been tried repeatedly without much success. There is no guarantee that the bottom-up approach will lead to success, either. The library field may simply be too resistant. But the people involved in practical indicator testing will at least learn something from their encounter with the real world of practical statistics. The management approach sees indicator development as a technical issue. If we define good indicators, people will be happy to use them. The social approach sees indicator development as a combined technical, educational and political issue.

Libraries face deep change. Deep change has three components: (1) the development of new technical systems; (2) the development of new skills; and (3) the development of new organizational structures. Changing systems is *relatively* easy. It only requires technical knowledge. Computers do not protest when they are reprogrammed. Introducing new skills is rather more difficult. We know that people are able to learn throughout their lives. That does not imply that they *want* to learn. Some do, but most don't. Acquiring new skills is hard work. Becoming a student and beginner after twenty years as a competent adult feels strange. Changing organizations is harder still. Even small establishments prefer to remain in power. But digital technology and statistical training are not sufficient by themselves. Structural barriers to change must also be removed. We need freedom to tinker, to discuss and to improve. Statistical development means *allowing* new technologies and new skills to enter the game.

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