Jun 3rd, 12:00 AM

The Difficulty of Indicating Transformation: The Challenge for Library Statistics and Surveys

Heli Kautonen
The National Library of Finland, heli.kautonen@helsinki.fi

Markku Laitinen
The National Library of Finland, markku.laitinen@helsinki.fi

Anna Niemelä
The National Library of Finland, anna.niemela@helsinki.fi

The Difficulty of Indicating Transformation: The Challenge for Library Statistics and Surveys

Heli Kautonen, Markku Laitinen and Anna Niemelä
The National Library of Finland

Abstract

Academic libraries have long refined the tools and skills in order to show their positive impact to research, to science and to the overall society. The aim is to provide essential information for library managers and decision makers. However, the qualitative and quantitative analyses showing libraries' impact should also provide indications about change, i.e. the transformation of such social practices that challenge the essence of libraries.

This paper presents two sources of information for analysing libraries' impact on the national level. The first is the Finnish Research Library Statistics Database and the second is the National Library End-User Survey of Finnish Libraries. The Database includes the annual statistics of all Finnish higher education institution libraries and also several special libraries. The End-User Survey is an online questionnaire aimed at the customers of all library sectors. These sources of information have been collected for several years and they can therefore reveal changes in time. They have been adjusted to the changing information needs and the transforming functions of libraries. Still, the society seems to transfer faster than these mechanisms can capture.

This paper discusses reasons why the transformation of social practices may be out of the reach of traditional information sources for analysing libraries' impact. There are methodological issues to be considered. Furthermore, the paper examines the newly-published ISO 16439 standard on impact evaluation. The aim is to discuss how the standard comports with the recent practices of national-level data collection. The paper ends with discussion on complementary information sources which can be useful in tracing societal transformation.

1 Introduction

Academic libraries have long refined the tools and skills in order to show their positive impact to research, to science, and to the overall society. The aim of this work is to provide essential information for library managers and decision makers. However, the qualitative and quantitative analyses showing libraries' impact should also provide indications about change, i.e. the

transformation of such circumstances that challenge the essence of libraries. This concern becomes graver in the times of economic stress, when organizations have to justify their existence and prove their ability to serve their customers.

Alongside with the development of digital services, more effort is put on gathering qualitative and quantitative data about library patrons' behaviour and preferences (e.g. Connaway & Dickey 2010), as well as their problems dealing with library services (Kress et el. 2010). This customer-centred approach is essential, but it doesn't fully take into consideration the social aspects of peoples' behaviour or the motivation behind the behaviour.

The reasons and ways people use libraries can be viewed as a manifestation of social practices. As Shove et al. (2012) argue, people construct their everyday life, not only based on individual choices but, in relation to shared social conventions. The existence of social practices involves the elements of materiality, (such as premises or library systems,) competence, (such as information literacy and information retrieval skills,) and meaning (i.e., the variety of motivations urging people to spend their effort on doing something). Consequently, Shove et al. point out that any emerging transformation in a society takes time because it implies changes in these elements and their interconnections to other social practices. The transformation of social practices is usually slow, and therefore challenging to detect.

The concept of impact is not less complicated to define. Even though it is easy to understand the matter intuitively, it is difficult and challenging to show the societal impact of the libraries in practice - not only because of the wide meaning of the concept but also because the exact indicators describing the impact of libraries have not been available.

Adapting Nagarajan & Vanheukelen (1997:87-104), impact can be explained as broad, general societal changes that indicate, for example, the extent to which the impacts of an organization (a university or another educational institution, museum, research institution, a public library) have promoted the achievement of goals set, either general or specific.

Yet, the definition above is too wide to the needs of measuring in practice because showing causality (e.g. library's role in social welfare) on the macro level may be impossible or at least controversial. So, there clearly is a need for a more restricted definition of impact.

In 2010, a work group nominated by ISO (the International Organization for Standardization) started its work to formulate a new international standard that will give the terms of reference for

assessing the impact of libraries. The result of the work of the group, the international standard ISO 16439, Methods and procedures for assessing the impact of libraries, has been completed recently and it will be published these days.

In the new standard, the utilization of various methods from interviews cost-benefit analysis is recommended. In this paper, the focus is on two sources of information for analysing libraries' impact. The National Library of Finland offers two evaluation infrastructure services for libraries in Finland: The Finnish Research Library Statistics Database and the National Library End-User Survey of Finnish Libraries. Their purpose is to support libraries' evaluation and development work.

This paper examines the possibilities and limitations of these data types from viewpoint of a national service provider with organizational customer base, but an interest towards end user insight, too.

**2 ISO 16439 standard as a tool for evaluation**

The new standard ISO 16439, Methods and procedures for assessing the impact of libraries, is the first documentation concerning the evaluation of the impact of libraries. In the standard, the concept of impact and other focal terms are defined and the standard is intended as a tool for the evaluation of impact of all types of libraries. It is suggested to be used for the following purposes:

-   Strategic planning and management of libraries
-   Comparison of library impact in the course of time and between libraries of similar type and mission
-   Promoting the libraries' role and value for learning and research, education and culture, social and economic life
-   Supporting political decision making that concern the services and strategic goals of libraries

Though all the methods described in the standard are not applicable to all libraries, the standard in general is applicable to all types of libraries in all countries. There are many different methods for evaluating the impact depending on which of the dimensions of the impact is desired for measuring.

In a nutshell, the library's mission can be defined as supporting the strategy of its mother organization, whether it is a municipality, school, an institution of higher education, research

institute etc. So, the most evident target for measuring the impact of the library is to evaluate the desired impact of the library, to evaluate how the objectives of the library as the support in the carrying out of the strategy of its frame organization have been achieved, and what was the share of the library in the reaching of the objectives of its frame organization. Illustration of the idea of impact and description of focal terms is shown in Fig 1.
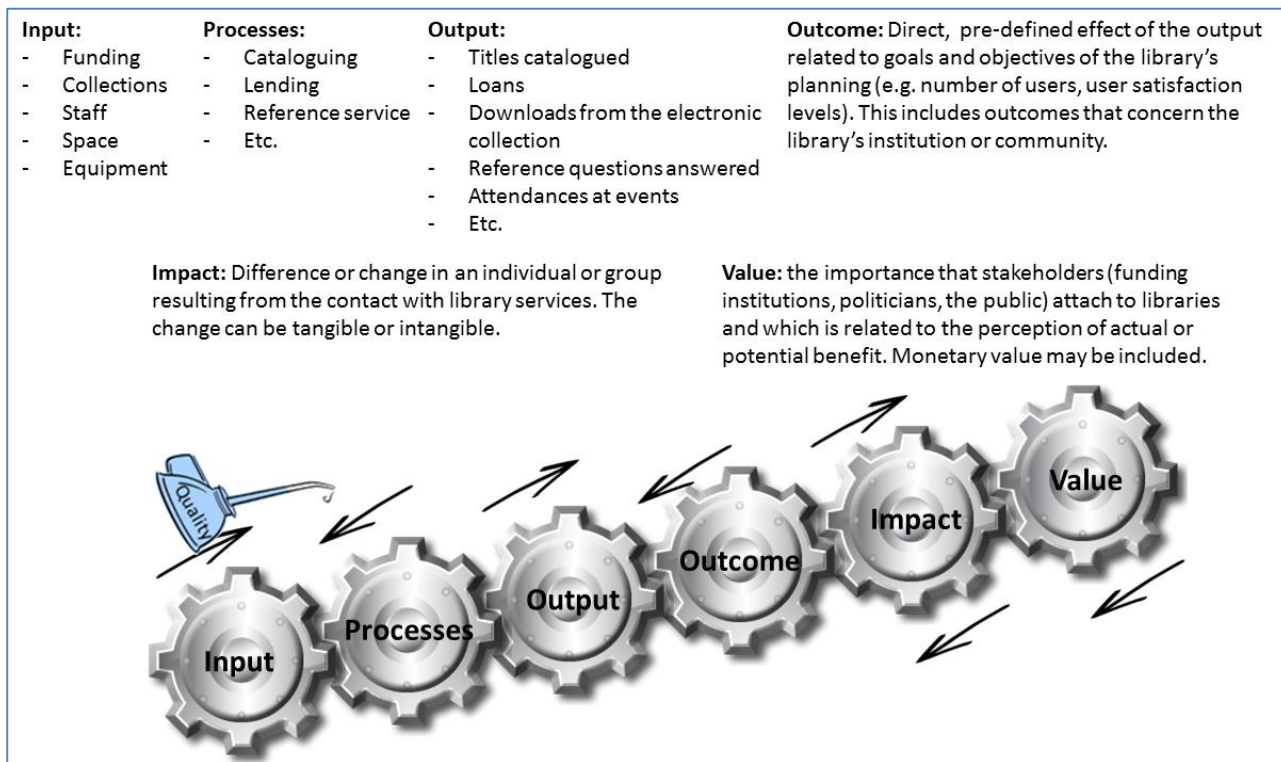
Fig 1 Connections between input, output, outcome and impact. Input to the library turns on the service processes as a result of which outputs and outcomes are created. Turning of any of the cogs affects all the others. To get the desired impact, one must define the number and quality of the needed outputs and outcomes. Inputs must be adapted to produce the needed outputs and outcomes. Quality is the "oil" that makes the processes more effective. Having the library operations positive impact, societal or monetary value may be detected.

The standard is intended to be taken into use in all countries, and it affords a uniform framework to the evaluation of the impact of libraries making a comparable evaluation feasible.

3 National data gathering

3.1 National surveys

The national user survey of Finnish libraries has been conducted three times. The latest was carried out in March and April 2013. The survey is carried out through an open online questionnaire aimed at the customers of all library sectors: the public libraries, the university libraries and the libraries of universities of applied sciences, as well as the special libraries that are in e.g. research institutions, foundations or other organisations. The questionnaire consists of several topics: purposes of using

the library; use of electronic services; opinions on the library as a service environment, and views on quality, importance and benefits of library services. The contents and the structure of the survey are developed in cooperation with the different library sectors while the National Library has taken care of the costs, implementation and outsourcing of the technical execution of the survey.

Regular, national-level data collection enables long-term monitoring of customer satisfaction and needs. In the light on customer satisfaction trends it is possible to evaluate e.g. the success of certain development operations from customers' point of view. The survey also provides comparable data based on which individual libraries can put their results in a national or regional perspective.

The library users have been active in giving feedback: the latest user survey received a total of 35 000 responses. The majority (54 %) of the respondents represented scientific libraries; 46 % of the responses became from public libraries.

The information that is displayed in the surveys is customer-oriented and qualitative by nature. In terms of indicating the transformation, the development of customer satisfaction is not the only question that matters; regular surveys can bring forth changes e.g. in customers' priorities and their habits of library use. Through experience-based information it is also possible to make visible some dimensions of libraries' impact and value.

There are certain limitations that regard survey data in general, and also some that are related to this survey and its data collection practices. One essential limitation results from the gap between survey participants and real library users. Various user studies suggest that e.g. age and gender have a significant role in library customers' behaviour and expectations (Pors 2010). Yet, the national survey does not reach all the user groups and thus the results represent only a limited section of clients: the clear majority were women, highly educated and working- aged.

Second, in the light of the more or less flattering results, it can be assumed that the critical clients are not very eager to participate in surveys (Serola & Vakkari 2012). If surveys are taken only by users who are active visitors and to some extent "committed" clients, a lot of useful information may be lost.

Another issue to consider is setting the right questions. Challenges may arise in searching for balance between long-term monitoring of customer satisfaction and the need to continuously customize the content of the questionnaire up-to-date. When customers' conditions of work or

study, as well as their information behaviour and needs may change rapidly, survey questions may lose their relevance in a couple of years or less.

So, the picture of libraries' benefits provided by survey results is restricted and somewhat traditional. Library users' changing behaviour and needs, and thus libraries' impacts "overall" stay at least partly out of reach. Some of these limitations can be solved by developing the methods and practices of conducting the survey: by creating new practices of data collection in order to involve also less regular and typical users, and by formulating the questionnaire more flexible based on an individual library's needs.

3.2 National statistics

The annual statistics of Finnish scientific libraries are collected in the statistics database of scientific libraries according to the standard ISO 2789, International library statistics. The database is maintained by the National Library of Finland. It can be accessed through the Internet and it is open for all interested without logging in. The database can be browsed using the two official languages of Finland (Finnish and Swedish) plus English.

The statistics of the scientific libraries of Finland give a general view on the resources, collections and services of Finnish scientific libraries. The statistics contain information about the national library, about the university libraries, about the libraries of applied sciences and about a few special libraries.

Traditionally, the librarians have been good at collating statistics and other information but poor at utilizing the results effectively. Neither the way of collecting statistics nor the contents of statistics has supported proactive way of planning. The traditional library statistics merely quantified the extent of the collections and everyday performance of the library but information about quality or impact of the library performance was either hidden behind the huge number of data or not available at all.

However, the rhetoric of using the library statistics is little by little changing from simply measuring resources to conducting an analysis of the library's impact. In the current economic climate, it is not enough for the library simply to quantify the extent of the resources or how they are used but one must also be able to show that investment in the library and availability of resources produced better results and value to the patrons and that these services were being delivered in an efficient manner.

In Fig 2, a comparison of developments of the number of full-text article downloads of electronic journals and cost of electronic journals in the Finnish universities of applied sciences is shown.
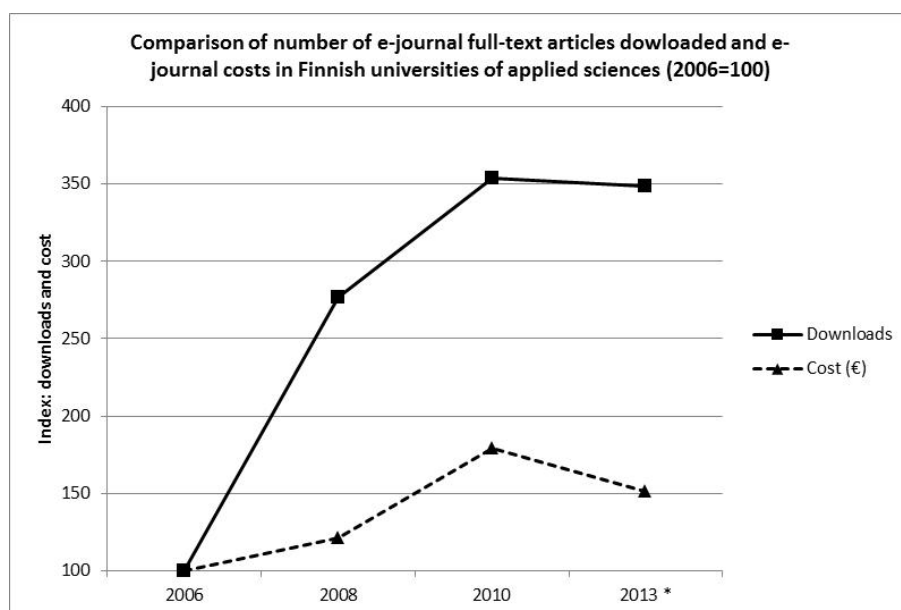
Fig 2 The growth of e-journal article downloads in compared with the costs has been manifold in the Finnish universities of applied sciences; while the annual number of downloads has grown from 360 000 in 2006 to 1.2 million in 2013 (3.3-fold), the annual cost of e-journals has grown from 0.5 million euro in 2006 to 0.8 million euro in 2013 (1.6-fold). Information from 2013 is preliminary. Source: Finnish Research Library Statistics.

Evidently, these materials are cost-efficient because the use of the material has increased faster than the money used for them. The strong increase of use with a much slower increase in the cost could implicate the successful information and successful choices of materials, but increasing need of clientele as well. Finding an answer to the last mentioned matter goes with the territory of user surveys.

4. Combining data from different sources

In order to obtain full benefit from the statistics and e.g. user surveys, the information collected needs to be refined. It also shall be linked with the information collected in other ways, for example with information from the user surveys, accounting material, or even from other statistics, such as with information obtained from the demographic statistics, geographic information etc. to help in the evaluation and future planning.

In order to obtain full benefit from the statistics and e.g. user surveys, the information collected needs to be refined. It also shall be linked with the information collected in other ways, for example with information from the user surveys, accounting material, or even from other statistics, such as

with information obtained from the demographic statistics, geographic information etc. to help in the evaluation and future planning.

When explored concurrently, these different data types can complement each other for assessment purposes and together provide stronger evidence than if they were handled separately. Certain changes in library services that are displayed in statistics can be compared with the survey results in order to explore if users' views somehow reflect the development.

Statistics on physical library visits, for instance, combined to survey results on the visiting purposes or significance of e-resources can display changes in customer expectations. On the other hand, combined data sets may suggest the transformation of the everyday practices of academic work as well as citizens' information retrieval.

In the standard ISO 16439, the term "mixed methods" describing the combination and utilization of different types of statistical data is used. The mixed methods give new tools for measuring the efficiency of the work being done in libraries and what possible impact they may have in their parent organizations and in the society (**Error! Reference source not found.Virhe. Viitteen lähdettä ei löytynyt.**).
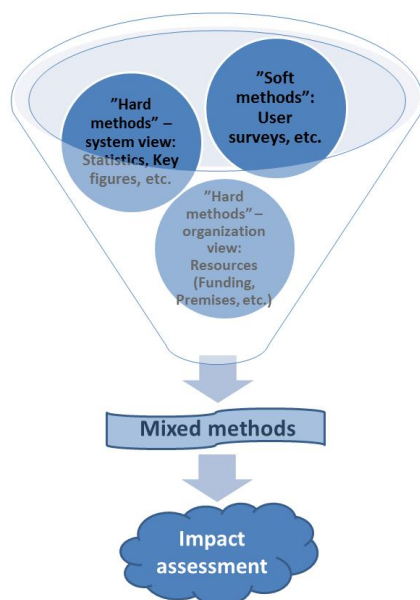
Fig 3 Combining data from different sources produces new tools for the analysis of the impact of library. These "mixed methods" are a step towards achieving a more comprehensive impact assessment of the library.

The mixed methods may help to acquire a better understanding how library services contribute and support user success best and by this way to apply that information for improvement and advocacy

for library. In library practice, the mixed methods may be applied in iterative processes where the results of one study are followed up by another to gain a better understanding of issues and impact.

In **Error! Reference source not found.Virhe. Viitteen lähdettä ei löytynyt.**, a follow-up study of user satisfaction (qualitative data) and use and input in electronic journals (quantitative data) in the Finnish universities of applied sciences is shown. The use of electronic journals has grown fast while the costs and number of titles in use have increased moderately. Respectively, the user satisfaction with the materials is high.
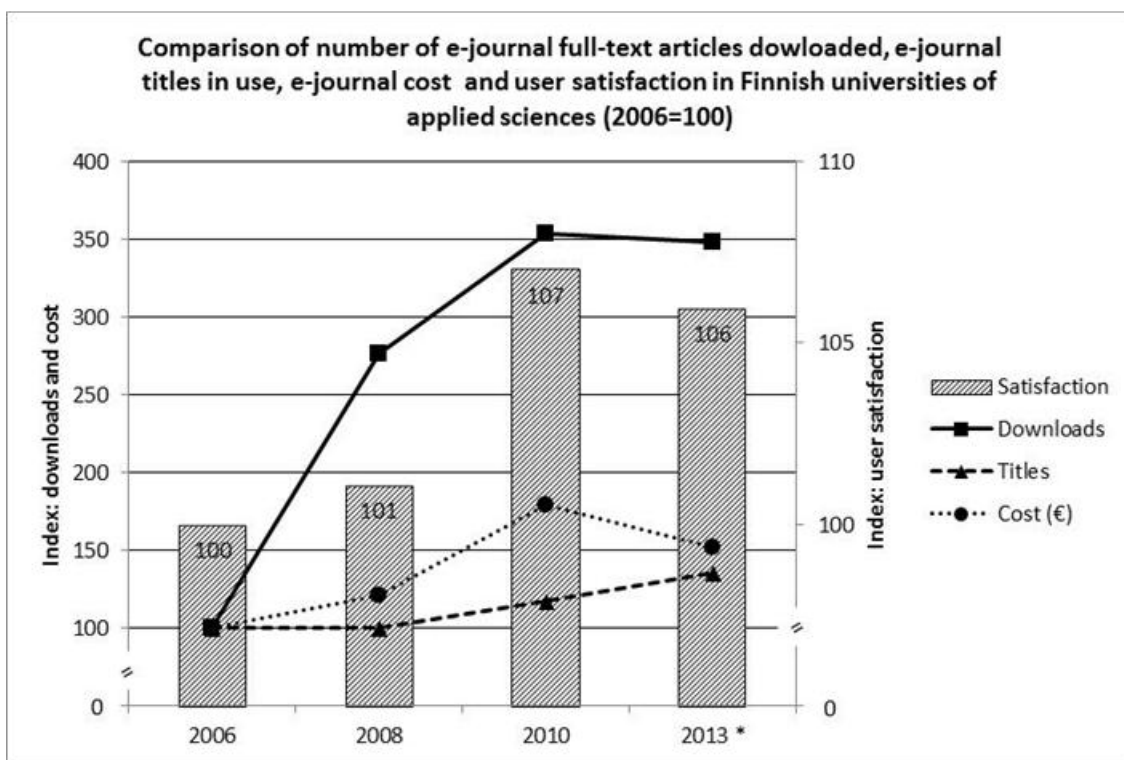

Fig 4 Follow-up of user satisfaction, number of use and titles and cost-efficiency of electronic journals in the Finnish universities of applied sciences. The users evaluated their satisfaction on scale 1 to 5, the numerical values being 3.69 in 2006, 3.73 in 2007, 3.95 in 2010 and 3.91 in 2013. Statistical information from 2013 is preliminary, user survey results are final. Source: Finnish Research Library Statistics and the National User Survey.

5. Discussion

The changing world sets challenges to library services as well as to evaluation data regarding these services. Besides monitoring things like the number of library visits, the number of loans or level of customer satisfaction, the evaluation data should also be able to help the libraries in showing impact and recognising end users' changing needs and behaviour. A cost-effective service may turn into ineffective if the motives of customer behaviour are not reflected.

Thus, there is a need to move beyond the traditional library performance measurement and to focus on the contribution and value that library services provide to their users. Besides, it is essential to consider that this value is not necessarily constant. Libraries' desired impacts and expected benefits change in time. The collection and utilization of evaluation data should keep up with these changes.

In order to stay up-to-date, statistical data and survey results can be complemented by various data types. In addition to data on library customers – interviews, log analysis – also other data sources may be worth considering. Statistics regarding academic performance within library's frame organisation, population statistics, non-user studies, studies on information behaviour, urban studies, or leisure time studies may all provide viewpoints that can help in identifying change – and thus figuring out customers' needs and understanding the impact.

References

Broady-Preston, J. & Lobo, A. (2011) Measuring the quality, value and impact of academic libraries: the role of external standards. *Performance Measurement and Metrics, 12,* 122 – 135

Connaway, L.S. & Dickey, T.J. (2010) The Digital Information Seeker. Report of findings from selected OCLC, RIN and JISC user behavior projects. *OCLC Research.*

Kress, N., Bosque D.D., & Ipri, T. (2010) User failure to find known library items. *New Library World, 112, 3/4,* 150–170.

Maceviciute, E. (2014) Research libraries in a modern environment. *Journal of Documentation 70,* 282–302.

Nagarajan, N. & Vanheukelen, M. (1997): *Evaluating EU expenditure programmes: A guide, ex post and intermediate evaluation.* Luxembourg 1997: European Commission.

Pors, N. (2010).Burning platforms and melting icebergs. An exploratory analysis of present strategic challenges and cross-pressures in the public libraries. *Performance Measurement and Metrics, 11,* 9–24.

Seppänen, A-P. & Laitinen, M. (2012): Libraries do make a difference: Common principles in showing the impact of different types of libraries. *QQML Journal 1*, 3-11. http://www.qqml.net/papers/July_Issue/1QQML_Journal_2012_Seppanen_Laitinen_1_3-11.pdf (accessed 24th Apr 2014).

Serola, S. & Vakkari, P. (2012). Perceived outcomes of public libraries. *Library & Information Science Research 36,* 37–44.

Shove, E., Pantzar, M. & Watson, M. (2012). *The Dynamics of Social Practice. Everyday Life and How it Changes*. London, UK: SAGE Publications.