



## World Library and Information Congress: 69th IFLA General Conference and Council

1-9 August 2003, Berlin

---

**Code Number:** 103-E  
**Meeting:** 122. Library Theory and Research  
**Simultaneous Interpretation:** -

### **Past decade – transforming measures and values in Estonian library practice**

#### **Prof. Aira Lepik**

Tallinn Pedagogical University  
Tallinn, Estonia

#### **Toomas Liivamägi**

Tartu University Library  
Tartu, Estonia

---

#### ***Abstract***

*The changing information environment sets new challenges for libraries. Libraries as mediators of information can act more effectively considering the demands, expectations and needs for library services by planning their strategies and tactics for their services in the information society, to make them more relevant in the provision of information to their communities.*

*The goal of this paper is to give an overview of opportunities of how libraries can use the process of planning to establish their behaviour in the market economy and to introduce methods of marketing library performance.*

*The paper is based on the study “Performance measurement and evaluation of research libraries in Estonia” (funded from Estonian Science Foundation Grant 4039; 2000 – 2002) and carried out as a joint activity of Tallinn Pedagogical University, the National Library of Estonia and Tartu University Library.*

*The study focused on the possibilities to use the analysis of the statistical data of 1995–2002 of four Estonian major research libraries – The National Library, Estonian Academic Library, Tartu University Library and Tallinn Technical University Library. The survey focused on library resources (collections), library services (visits, loans), librarians (education and qualification), and financial resources (income and expenditure). The study indicates that research libraries can function successfully as an information environment for Estonian science, culture, economy and education.*

## **Introduction**

Libraries are a component of our changing environment. Organisational change involves large areas of activity including mission statements and goals, the role of the library in the information society, structure of the organisation, use of information and communication technology, culture of the organisation, qualification of librarians and finance. One way in which libraries and other organisations address this change is through performance measurement.

Performance measurement in libraries supports the management process and involves evaluation. The need for better management information and decision support techniques within libraries has long been recognised and librarians require information relating to the provision of information services to help them understand the success of individual operations as well as their impact on the organisational environment and its development (Cullen 1998).

Performance evaluation is a political process, because it includes allocation of resources. Allocation of resources requires judgement about what are important and setting priorities for spending financial resources (Van House 1995).

Because every library has specific objectives, goals and responsibilities there is need to develop specific performance indicators for every library type, to adequately reflect their performance quality, quantity and effectiveness.

Library development and effectiveness depend on public support, national economic, cultural and information policies, valid legislation and adequate finance. The status of a library in the state information system can be enhanced by its skill in evaluating its activities, measuring its performance and effective use of benchmarking. Effective library networks are firmly rooted in meeting user's needs. This means that in planning library activities and developing library and information policies the following concepts have to be considered – effectiveness, efficiency and economics (Ramsdale & Fuegi, 1997). There is therefore a need for statistical and other evidence to gauge the performance of library operations and to assist with their management planning.

## **Library network in Estonia**

Libraries in Estonia come under different ministries and other authorities. Changes in the Estonian library system have taken place mainly in connection with the transformation of the economic structure, the changing territorial and administrative situation and have resulted in optimising library services. It is broadly true that there have been no unjustified library closures caused only by lack of funds.

A legal framework for libraries exists similar to the general practice of library legislation in the democratic world. The Public Libraries Act (passed 1992, amended 1998) regulates the activities and functions of public libraries. The National Library is regulated by the National Library of Estonia Act (passed 1990, amended on 2002) and research libraries follow university legislation and the Organisation of Research and Development Act (passed 1997, amended on 2001). The Estonian libraries network is co-ordinated by the Ministry of Culture and Ministry of Education and Science (Valm 2000).

The network of Estonian libraries consists of 5 main levels: **research libraries** (national library, universal libraries, university libraries, special research libraries); **libraries of other higher institutions** (libraries of a private universities, libraries of a state nonuniversity higher educational institutions, library of a private nonuniversity higher educational institutions); **special libraries** (government libraries, health service/medical libraries, libraries of a professional or learned institutions and associations, industrial or commercial libraries, libraries of a cultural institutions, other special libraries); **public libraries** (central libraries, municipal libraries, childrens libraries, community libraries, rural libraries, other public libraries); **school libraries** (elementary school libraries, basic school libraries, secondary high school libraries, vocational school libraries, evening school libraries and hobby school libraries).

An overview of the number of Estonian libraries is shown in Table 1.

Table 1: Estonian libraries in 2001

#### ESTONIAN LIBRARIES IN 2001 \*

	Num ber of librari es	Library-use			Documents in collection			Libraria ns
		Users	Visits	Loans	In total at the end of the year	Proportion of books	Annua l additio ns	
Research and special libraries	89	152, 232	2, 054, 639	3, 897, 567	57, 412, 904	18,4	4 068 415	1, 132
Public libraries	578	447, 834	6, 426, 415	13, 503, 545	11, 060, 808	98,1	144 133	1, 310
School libraries	516	203, 296	3, 150, 479	3, 809, 159	5, 629, 692**	98,4	- 119 271	662
<b>LIBRARIES in TOTAL</b>	<b>1, 183</b>	<b>803, 362</b>	<b>11, 631, 533</b>	<b>21, 210, 271</b>	<b>74, 103, 404</b>	<b>36,3</b>	<b>4 093 277</b>	<b>3, 104</b>

Research, special and public libraries data as on 1 January 2002, school libraries data as on 1 September 2001

\*\*The number of items in main collections at the end of the schoolyear 2000/2001

Source: Library Science Department of National Library of Estonia

Summarised reports of Estonian libraries statistics of all library types are issued every year in paper form (from the year 1994) and from the year 2001 published electronically too on the homepage of the National Library of Estonia (Estonian Libraries 2002).

It can be seen that National, research and special libraries are an indispensable resource of science, research and development for Estonian scientists, students, specialists of various fields, organisations, institutions, enterprises and the whole academic and intellectual community of the country. The creation of the suitable research library network started at the beginning of the 1990, when as a result of optimising services some special and university libraries were merged.

### **Research and development in Estonia: structure and trends**

Principal restructuring of Research and Development (R&D) establishment and the reform of higher education in Estonia began in the 1990s. The period 1990-1995 was characterized by setting up the basis in the legal and structural sense, the years 1996-1999 were for creating better conditions for research and development.

The principles and methods of funding research and development were entirely changed by fully switching to project financing in the form of peer-reviewed grants and target financing for certain projects based on scientific merit. Restructuring the system of research and development institutions, started with collapse of the network of Soviet-type branch-institutes and liquidation of research and development units in the enterprise sector, was carried out in a step-by-step manner (Research and Development 2001).

A basic change was the transformation of the Estonian Academy of Sciences, which had been an association of institutions, into western type of scholarly elite in 1995, and its former institutes and research institutions were merged with universities. Financing two different systems of research institutions is too expensive for a small state. Now there is one joint system of universities for higher education and scientific research. The rather complicated reform has become effective and the majority of research institutions continue their work with universities. In April 2001 the Law *Organisation of Research and Development Act*, was passed. This regulates the activities of research and archive libraries.

Presently the most important decision was the approval of the Estonian Strategy for Research and Development 2002-2006 "Knowledge-based Estonia" by the *Riigikogu* (Parliament of Estonia) on 6 December 2001. "Knowledge-based Estonia" reflects an understanding of the increasingly greater role of science and innovation in shaping Estonia's future. The strategy indicates three key-areas for the future:

- user-friendly information technologies and development of the information society;
- biomedicine;
- material technologies.

Certainly, as a small country, Estonia has to ensure the continuity and promotion of research related to the Estonian language, national culture and history, the sustainable development of society and environment. In order to realize the objectives of the strategy, it is intended that by 2006, total expenditure on Research, Development and Innovation will be 1,5% of GDP (cf. With 0,75 % in 2001). There are several instruments envisaged in the strategy, especially designed to involve more private capital in developmental activities (Excellence in Research 2002).

This increasing interest by the Estonia government in R&D and innovation naturally impacts on the provision of library and information services for the three key areas for the future. It

was with this in mind that the project described below was formulated; an evidence-based analysis to take Estonian R&D libraries into the future.

## **Current project**

### ***Performance Measurement and Evaluation of Research Libraries in Estonia***

Over the years there have been several projects on performance measurement in Estonia. There are long term traditions of library user surveys in Estonian academic libraries. During the 1990s there were a lot of discussions in academic libraries about the possibilities of measuring performance and a wide range of professional literature on performance measurement was consulted (Research libraries in public information system 1998).

The grant application to the Estonian Science Foundation on the subject library performance measurement survey, *Performance Measurement and Evaluation of Research Libraries in Estonia*, was accepted in January 2000. The project ran from 1 January 2000 to 31 December 2002 and the institutions involved were the Tallinn Pedagogical University (Grant holder Aira Lepik, Department of Information Studies), National Library of Estonia and Tartu University Library.

The aim of the project was to analyse the performance optimality of research libraries, which are a part of the state system of information dissemination, under the present economic and financial conditions, and to analyse research libraries' activities.

The main objectives of the project are:

- To assess the adaptation of performance measurement methods for Estonian research libraries;
- Selection and analysis of performance indicators for research libraries to measure quantity, quality and effectiveness;
- Monitoring library performance to support practical steps forward in the implementation of quality and quantity assessment and management; identify practical measures covering performance indicators (monitoring) – efficiency (use), economy (cost) and effectiveness (quality);
- Specification of the levels of performance measurement and their use in measuring and evaluating research library performance on resource, activities, function, service and library level;
- Standardisation to support the adaptation and use of international standards (ISO) on library performance measurement and quality evaluation, to optimise and harmonise standardisation;
- To assess the training needs of information professionals - organise training courses, seminars and scientific conferences for librarians on library performance measurement and quality evaluation, introducing the subject, methods and methodology, and encouraging collaborative research projects; introducing the principles of TQM (Total Quality Management); further develop the LIS curriculum of BA and MA studies with new subjects on library performance measurement and quality, quality of library services (new research methods on service quality as LibQUAL+, SERVQUAL, and Scorecard), and library economics.

This study *Library Performance Measurement and evaluation: possibilities for extending Performance Measurement and benchmarking methods in Estonian research libraries in*

1995–2000, focused on the possibilities to use the analysis of the statistical data of 1995–2000 of four Estonian major research libraries – The National Library, Estonian Academic Library (universal library), and two academic libraries – Tartu University Library and Tallinn Technical University Library.

At the first stage of statistical analysis – the descriptive part of the analysis at the institutional level – the time series of the four libraries' indicators are given:

The collection development and changes indicators – additions to the collection, the three-year average of additions, rate of additions, the proportion of additions and weeding, acquisition sources;

Expenditure indicators – main expenditure (staff expenditure, costs of acquiring documents for the collection, communal expenditure, investments) in 1995–2000; cost indicators per user and per visit (yearly expenditure per user, cost per library visit, acquisition expenditure per user, and staff expenditure per user) in 1995–2000;

Library service indicators – the number of library users, visits and loans in 1995–2000;

Indicators of library staff (total number of staff members, including librarians) and education of librarians (librarians with higher education, including the employees with higher library education).

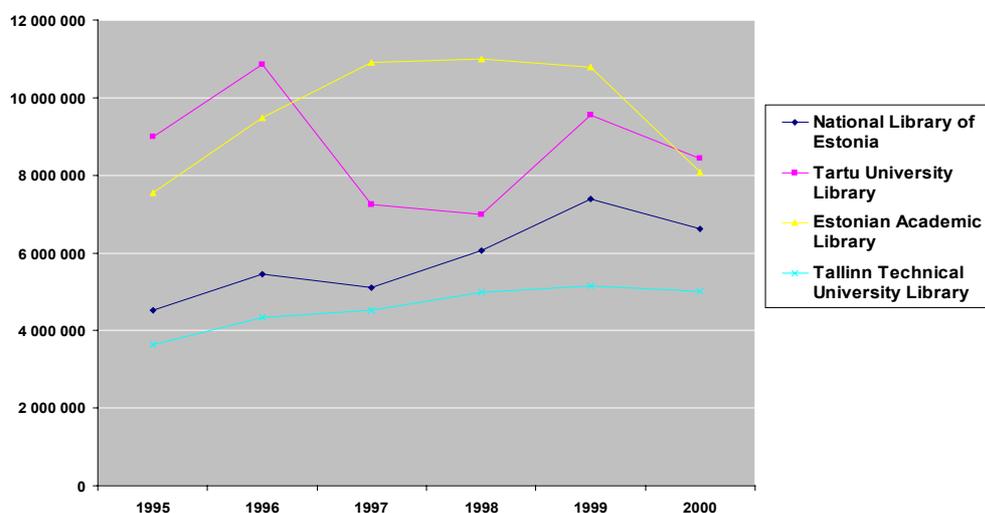
This analysis of performance indicators provides an opportunity to draw conclusions on the collection acquisition, library use, frequency of attendance, librarian's education and competency, as well as distribution and use of financial resources of the libraries. The study results of these four research library indicators helped us to optimise research libraries' acquisitions policy and acquisition budget delivery.

## **Results**

The results revealed that the coefficient of additions rate in Estonian research libraries was 99% in 1996–2000. However, there were big differences between different libraries, including university libraries, showing that the financing of acquisition is unstable. The proportion of books among annual additions of research libraries is approximately 60% and the proportion of serials is approximately 21%; the proportion of electronic documents among additions is quite low at 5%.

Over the total period of the study the following issues were revealed: documents placed on open shelves only make up 4,2% of total resources of the analysed four libraries. The average frequency of attendance of the four research libraries in 1995–2000 was 16 visits per user; university libraries were visited more frequently where the rate was 30–40 visits per user. There were 140 users and 3283 loans per librarian of the research libraries. The average percent of supplied interlibrary loans was 66%, the rate being, however, higher in the National Library at 84%.

**FIGURE 1**  
**Acquisition expenditure of the National Library of Estonia. Estonian Academic Library. Tartu University Library and Tallinn Technical University Library 1995-2000 (EEK)**



In 2000 the staff of the four research libraries included on average, 79% of librarians with higher education qualifications (the average of the six years was 83%). The proportion of those employees with higher LIS education among the staff with a university education was 50%. However, university libraries employ numerous subject librarians with university diplomas in fields other than LIS.

#### Cost analysis:

The average acquisitions expenditure of the research libraries was 36% and staff expenditure 42% of the total budget. The average acquisitions cost per user in research libraries was 364 EEK (23.26 EUR), with big differences between libraries. Annual expenditure per one unit was approximately 283 EEK (18.08 EUR). The average cost per user was 797 EEK (50.93 EUR) and average cost per visitor – 77 EEK (4.92 EUR).

#### **Conclusions:**

1. The demand for quantitative analysis of research library performance has been increasing for years (Valm 2002). The first stage of the project focused on the analysis and organisation of existing evidence using the Estonian library statistics with an aim to provide to libraries valuable management information for better organisation of their acquisition, services, work and financing. The statistical analysis was based on the methods used for analysing statistical data, mathematical formulas, compiling time series, and methods used for calculating performance indicators.
2. Original statistical questionnaires provided by libraries were used as sources of statistical data. Such surveys are necessary for:
  - Drawing up library development plans;
  - Working out the financial basis for the library system;

- Working out the financial basis for research libraries' acquisitions;
  - Developing an integrated research libraries acquisition policy, which would determine every libraries' responsibility areas, and acquisition principles of a resource library to avoid duplication and cut the costs;
  - Evaluating library effectiveness;
  - Strategic planning of library activities and making changes in library work organisation, budget planning and redistribution (Nuut, Lepik, Liivamägi 2002).
3. The National Library of Estonia has kept Estonian library statistics, managed statistical data, the basis for record keeping and analysing methods, as well as provided data analysis for the different library sectors since 1993. The methodology of quantitative analysis of statistics needs to be improved with new methods, including methods for analysing library performance indicators in the electronic environment, and the introduction of benchmarking models for assessing library work. Quantitative analysis is only a part of library performance measurement which requires additional research of library work quality – user surveys for determining overall user satisfaction, analysing the needs of information consumers, market research of services using various questionnaires and accepted methods of LibQUAL+, SERVQUAL and balanced scorecard (Lepik 2000, 2001).

### **Important Lessons**

Estonian libraries have started with quantitative and quality analysis. However, this has not yet developed into a systematic and regular process to develop organisational activities or provided a basis for planning activities, development policies, state financial policy and procurement of state resources. There is a need to draw up a library development policy and financial basis, based on research. At present, library statistics are still the only compact data on which Estonian researchers can provide data analysis of all library (types) sectors.

In future it would be rational to focus on working out library performance indicators considering the types of libraries and to apply performance measurement to all library sectors. It is necessary to get a complete overview of the quantitative and qualitative aspects of performance in all library sectors to ensure the development of the Estonian library network, drawing up a development policy and developing an integrated state financing policy.

The functioning of research libraries as an information environment for Estonian science, culture, economy and education requires a thorough analysis, with scientifically grounded planning of these libraries activities. This analysis supports and promotes the position of Estonian research libraries on the information highway of Europe and the whole world.

### **References:**

Cullen, R. (1998). Does Performance Measurement Improve Organisational Effectiveness? A Post-modern Analysis. *In*: Proceedings of the 2<sup>nd</sup> Northumbria International Conference on Performance Measurement in Libraries and Information Services, 3-20. Newcastle upon Tyne: Information North.

Estonian Libraries: Statistics 2001. URL <http://www.nlib.ee/inglise/lib/libstat.html> (24.05.2003)

Estonian Libraries 2002. URL <http://www.nlib.ee/inglise/lib/lib.html> (24.05.2003)

Excellence in Research (2002). Excellence in Research (2001-2002): Estonia. Tartu: Ministry of Education.

Lepik, A. (2001). Assessment of service quality in research libraries – Estonian approach. *In: Knowledge, Information and Democracy in the Open Society: the Role of the Library and Information Sector. Proceedings of the 9<sup>th</sup> International BOBCATSSS Symposium, 229-237.* Vilnius: Vilnius University.

Lepik, A. (2000). Sharing success: marketing of research library services. *In: Library as Information Gateway to the New Millennium. Proceedings of the 6<sup>th</sup> Congress of Baltic Librarians, 256-259.* Vilnius: Lithuanian Librarians' Association.

Nuut, A. (1999). Assessment of library performance: criteria, performance planning, performance indicators and benchmarking (in Estonian) Raamatukogutöö hindamine: kriteeriumid, tegevuse planeerimine, tulemusnäitajate võrdlev analüüs. *Raamatukogu*, 4, 14-17.

Nuut, A. (2002). The importance of a Research Library in the Process of shaping Informational Infrastructure for Research and Development activities: Academic Libraries in the Scientific and Educational System of Estonia. *In: From Printed Book to Digital: Tartu University Library 200*, 30-41. Tartu: Tartu University Library.

Nuut, A., Lepik, A., Liivamägi, T. (2002). Developing Performance Measurement and Quality Evaluation in Estonian Research Libraries: Survey of current Situation. *In: Proceedings of the 4<sup>th</sup> Northumbria International Conference on Performance Measurement in Libraries and Information Services, 159-170.* Washington: Association of Research Libraries.

Ramsdale, P., Fuegi, D. (1997). Library Economics in Central and Eastern Europe. Libraries in the Information Society. Luxembourg: EUR 18042EN. Office for Official Publications of the European Communities, 326p.

Research libraries in public information system: towards performance quality = Teadusraamatukogud riiklikus infosüsteemis: teeninduskvaliteedi hindamisest. (1998). Comp. by A. Norberg, Ed. by A. Nuut. Tallinn: National Library of Estonia. (Acta Bibliothecae Nationalis Estoniae/ABNE VIII = Eesti Rahvusraamatukogu toimetised/ERRT VIII).

Research and Development (2001). Research and Development in Estonia 1996-1999. Structure and Trends. Tallinn: Research and Development Council.

Valm, T. (2000). Estonian library science in the past decade. *Nordinfo-Nytt*, 2. 13 p. URL [http://www.nordinfo.helsinki.fi/publications/nordnytt/nnytt2\\_00/valm.html](http://www.nordinfo.helsinki.fi/publications/nordnytt/nnytt2_00/valm.html) (23.04.2003)

Valm, T. (2002). Libraries facing Changes. *In: Libraries and Librarianship in Newly Independent Estonia*, 9-20. Tallinn: National Library of Estonia.

Van House, N. (1995). Organisation Politics and Performance Measurement. *In*: Proceedings of the 1<sup>st</sup> Northumbria International Conference on Performance Measurement in Libraries and Information Services, 1-10. Newcastle upon Tyne: Information North.