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Quality of academic libraries – funding bodies, librarians and users perspective

A Common Project of Polish research libraries on comparable measures

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Abstract

According to the ISO Standard 11620 Performance Indicators for Libraries, the quality means "totality of features and characteristics of a product or services that bear on the library's ability to satisfy stated or implied needs". Hence the quality assessment depends not only on the product or service as it is but also on a person or institution involved in the assessment process.

High quality of library performance is crucial for each research library to survive. Wide on-line access to information makes researchers and students demand the highest quality library services. It is the quality of library services that decides on the perception of the library within its parent institution and the society. Comparable quality measures (which refer not only to library services but to all aspects of library performance) are of vital importance for efficient and effective library management. A library needs both to satisfy its users and to prove to its funding bodies that it is worth investment. Moreover, the State Accreditation Commission in the process of the assessment of higher education institutions takes the quality of library services into account. Therefore current efforts to determine unified standards and library performance indicators are a starting point to the full implementation of reliable analysis-based management and assessment.

The main objective of the paper is to present the results of the on-going study of performance indicators for Polish research libraries. The report from the research together with background information on library statistical data collection reflects the overall situation of library quality measures and assessment in Poland.

The study is a continuation of the activity realised in the frame of the EU Tempus Project "Development of Library Management as a Part of the University Total Quality Management". The Group for Standardisation presently conducts the research in the frame of the national project financed from the funds of the Ministry of National Education and Sport. Authors of the research encountered many difficulties implied by the lack of national patterns or standards for library statistics and effectiveness measurement to follow. Therefore they have been trying to adopt model foreign solutions to the Polish realities. The paper describes the tools for library performance evaluation applied in Poland in 2003. The authors discuss some issues related to the preparation of an online questionnaire for comparative studies and a computer program for a quantitative and qualitative data collection and analysis. Next, the results of the research for the years 2002-2003 are presented including tables and graphs. Finally, we present a proposal for new standard surveys to be used for the assessment of the quality of libraries by their users (according to the international standard 11620). Data received from users surveys will provide important complementary information to the raw data and the indicators derived from them.

Introduction

The term *quality*, according to various glossaries, means one of the following: fitness for purpose, fitness for use, conformity to requirements and absence of defects¹. The standard ISO 11620 defines quality of libraries as "totality of features and characteristics of a product or service that bear on the library's ability to satisfy stated or implied needs" (ISO 11620, 1998). Over recent years one can observe an increasing interest and different approaches to quality in libraries and information services, especially in a management area (Brophy 2004). A common factor of several concepts and approaches to quality is the focus on user expectations and needs. In the TQM context "the quality of service is defined by the customer's perception of both the quality of the product and the service providing it" (Barnard 1994). Academic libraries should fulfil their own strategic plans and also goals of the higher education system (Pritchard 1996). They "like other service institutions have to show that they are using given resources for the right purpose and in the best way, that they are providing high quality services" (Poll and te Boekhorst 1996). In other words, they are "being asked to demonstrate their worth, to justify their expenditure, and to adopt new practices that involve substantially improved and extended services to users" (Ward et. al. 1995)

The quality of academic libraries is connected with services, product as well as staff, facilities, space (Pindlowa 2002). Mowat (1996) states, "High quality staff can transform even the poorest library into an operation offering excellent service". Because libraries are service organizations, the quality in the context of a library is often treated as the quality of service. Hernon and Nitecki (1999) point out that service quality includes three areas: resources (information content), organization (service environment and resource delivery) and service delivered by staff. Each of them is related to five elements (dimensions) of service quality defined by Parasuraman, Zeithaml and Berry²: reliability, assurance, tangibility, empathy, and responsiveness. Brophy and Griffiths identified ten quality attributes applicable to library and information services: performance (a library service meets its most basic purpose), features (aspects of the service appealed to users), reliability (include availability of the service), conformance (the service meets the agreed standard, including standards and protocols such as xml, rdf, dublin core, oai, z39.50 etc.), durability (sustainability over a period of time), currency of information, serviceability (the level of help available to users), aesthetics and

¹ Wikipedia <http://en.wikipedia.org/wiki/Quality> [accessed on 20 May 05]

² http://www.i2manage.com/methods_zeithaml_servqual.html [accessed on 20 May 05]

image (physical library and web-based services), perceived quality (the user's view of the service), usability (particularly relevant to electronic services) (Brophy 2004).

Who decides about the quality and who evaluates its level and assesses "fitness to purpose" of the library?

"Many librarians maintain that only they, the professionals, have the expertise to access the quality of library service. They assert that users cannot judge quality, users do not know what they want or need, and professional hegemony will be undermined if they kowtow to users. Such opinions about services, in fact, are irrelevant. The only thing that matters is the customer opinions, because without users there is no need for libraries except to serve as warehouses. After all, customers (present, potential, and former ones) believe that the library's reason for being open is to meet their needs. Each customer evaluates the quality of service received and decides when (or if) there will be further interaction with that organization" (Altman and Hernon 1998).

The quality of a library is defined and assessed from a perspective of different groups of people. Moreover, the quality of library services decides on the perception of the library within its parent institution and the society. On the other hand, library needs both to satisfy its users and to prove to its funding and accrediting bodies that it is worth investment. Additionally to these groups - users and financing bodies – also library staff members' perspective should be considered. They have to meet expectations of both the groups but they have their own needs concerning quality, concerning e.g. conditions of work or staff development. As Poll and te Boekhorst (1996) state, quality in sense of "fitness to purpose" is defined by current and implied clients' needs. Poll (2004) presents an interesting example of quality from the perspective of three groups of stakeholders: users, financing authorities and library staff (Tab. 1). She points out that "not all of these issues may be aspects of quality, but they are important for maintaining quality" (Poll 2004).

Users	Financing authorities	Staff
Access to information worldwide	Cost-effectiveness	Good working conditions
Delivery of information to the desktop	Clear planning, effective organization	Clear planning, straight processes
Speed of delivery	Positive outcome on users	High reputation of the library
Good in-library working conditions	Effective cooperation with other institutions	Systematic staff development
Responsiveness of staff	High reputation of the library	
Reliability of services		

Tab. 1. Quality: Stakeholder views. Source: Roswitha Poll (2004).

An interesting survey was undertaken among the Malaysian libraries on what is meant by "quality" from the perspective of library staff. For the question "How do you define *quality* in your library services?" respondents gave the following definitions: access to well-developed collections, prompt, efficient and courteous service, fulfilment of users/clients' information needs, conducive environment and facilities. Given a list of 16 characteristics but asked to choose five, the respondents selected the following: accessibility, courtesy, effectiveness, efficiency, and promptness/timeliness (Osman et al. 1998). Another interesting study was conducted to determine the quality of Romanian libraries. For the question: "how do you define quality in terms of service?" respondents stated: "openness to new ideas", "willingness to change". Examples of quality of staff included such statements as "being courteous",

“having a team spirit”, and being amenable to “open criticism”. Examples of the respondents’ definitions of quality related to resources included “having journals for specific disciplines”, and “having foreign books” (Owens and Anghelescu 1999).

Measurements of the quality of libraries take into account the evaluation of services as well as user satisfaction and opinions about the importance of individual services. The purposes of measurements may vary - they may be a stage in a strategic planning process, decision making, new service planning and control after its implementation, an accreditation, quality control, monitoring process (TQM, ISO 9000), promoting of the library activities, comparisons between libraries (benchmarking). Traditionally, the quality of an academic library was described only by inputs (particularly collection) and partly by outputs as the libraries’ work results (Ambrožič 2003, Nitecki 1996). These data not always reflected the quality. The most advisable model of measuring a library performance assumes the following types of data based on all elements of the library: inputs (the raw data such as finance, collection, equipment, users and staff, space, seats), outputs (the work done, i.e., circulation, cataloguing, reference services, preservation, interlibrary lending, facilities usage and e-resources searches), outcomes (impact of library services on users at the local institution and society) and its combinations (ACRL 2004, Ambrožič 2003, Kyrillidou and Blixrud 1998, Ward et. al. 1995). The basis of measuring quality is collecting and analysis appropriate data both quantitative and qualitative. Data usually come down to library statistics and data collected from methods such as simulation, focus group, interview, observation, survey (Poll and te Boekhorst 1996, Ward et. al. 1995, Ambrožič 2003, Whitehall 1994). Qualitative mechanisms may be combinations or correlations with quantitative measures of inputs, outputs, and performance (Pritchard 1996, Whitehall 1994). Though some quantitative measures imply quality ones. As Hernon (1996) wrote, "clearly, it is important to all of us to decide which measures to collect (input, output, outcome, impact) and how to supplement these with qualitative indicators". So, traditional approach in measuring the quality requires more qualitative measure outputs and outcomes (Brophy 2004, Nitecki 1996, ACRL 2004, Ambrožič 2003, Kyrillidou and Blixrud 1998, Blixrud 2001). One of good examples is the assessment of service quality descended from Parasuraman, Berry and Zeithaml conceptual model reducing gap between customer expectations and perceptions and a measurement instrument SERVQUAL based on five service quality dimensions mentioned above (Franklin and Nitecki 1999, Hernon et al. 1999, Hernon 1996, Nitecki 1996). SERVQUAL was widely adapted among many libraries in different countries. Last years it was employed to ARL LibQUAL+³ project and Web-based survey to define and measure library service quality across institutions and to create useful quality-assessment tools for the library evaluation from the user’s point of view.

For performance measurement, including quality assessment, it is required to determine and define a set of quality criteria and performance indicators. Quality criteria are implied by library’s goals and objectives, as well as users’ needs and expectations. Performance indicators are quantified statements to evaluate and compare the performance of a library in achieving its objectives (Poll and te Boekhorst 1996). They both are the tools to assess the quality and effectiveness of library services and other activities, as well as to assess the usage of the library resources (ISO 11620, 1998). Evaluation criteria and indicators should be later standardised on local, national or international level to facilitate self-assessment and comparison between libraries, but “standards should be based on research into effectiveness, not on conjecture or subjective opinion” (Whitehall 1994). The studies and projects on performance measurement have resulted in some sets of performance indicators and

³ <http://www.libqual.org/About/Information/index.cfm> [accessed on 20 May 05]

standards. The most important ones developed at the international level were ISO standard on library performance indicators (ISO 11620, 1998) and IFLA guidelines for performance measurement in academic libraries (Poll and te Boekhorst 1996). Other important initiatives were concentrated on libraries at national level (Ward et. al. 1995) and regional level, such as European projects: CAMILE, DECIDE, DECIMAL, EQLIPSE and MINSTREL (Kyrillidou and Blixrud 1998). Among significant works addressing performance indicators and standards for academic libraries, as well as benchmarking could be mentioned: The ARL New Measures Initiative (Blixrud 2001), ACRL Standards for Libraries in Higher Education (ACRL 2004), "Guidelines for the application of best practice in Australian University Libraries" (Wilson et. al 2000), UK "The Effective Academic Library" (Joint Funding Councils' 1995), benchmarking initiative from UK (Winkworth 2001), Germany (Klug 2003) and Netherlands (Laeven and Smit 2003). Creation of the national quality standards, guidelines and recommendations ought to take into account the local conditions. As Pindlowa (2002) states:

"The level of quality cannot be defined once and for all, since both the criteria and evaluation methods, as well as the assessment of the results achieved, may change. This is caused by various factors, for example technological, political, economic, as well as the ones connected with the community in which and for whom information services work. It is crucial that these varying criteria and methods, as well as the dissimilarity in the level of the quality achieved by a given country, are taken into account when aiming at adopting the international standards on the quality of information work. Countries differ in living standards they achieve, in the level of education, and the way they introduce innovations. Setting the goal is of fundamental importance, since its accomplishment or failure to reach it may be treated as a basis for quality assessment".

Academic libraries in a library network in Poland

Library and information services in Poland are provided by a large number of public, research, school, pedagogical, penitentiary, hospital, company and church libraries. A central Polish library is the National Library⁴. Research libraries report to various ministries and have different tasks. The major group of research libraries form academic libraries. (Tab. 1). In the next group there are libraries of the Polish Academy of Science and R&D institutions. Their users are mainly researchers from various research units. Another group consists of eleven selected public libraries (usually located in big cities). They report to local administration and serve local community, including pupils, students and scientists - often those not affiliated at local universities. Finally, there are special libraries. They are supervised by the ministries they serve (e.g. the Ministry of Health, Ministry of Defence). Many of them have the status of central libraries, e.g. Sejm Library (the library of the Polish parliament) or the Central Medical Library.

Specification	Libraries	Library collection (excluding electronic) in thousand vol.			Special collections in thousand physical units	Readers in thousand	Loans for individual users in thousand physical units	Staff
		Total	Books	Serials				
Total	1225	73.503	57.546	15.957	25.967	2.102	17.297	9.461
National Library	1	2.865	2.129	736	2.977	35	25	590
Academic Libraries	989	52.804	42.238	10.566	19.308	1.657	14.712	6.680
Libraries of the Polish Academy of Sciences	94	4.729	2.960	1.769	583	42	270	380
Libraries of branch R&D units	99	2.867	2.062	805	1.093	37	138	234
Public libraries	11	6.386	5.391	995	1.463	250	1.904	975
Other	31	3.852	2.766	1.086	543	81	247	602

Tab.2. Research libraries (main and subsidiary - division and branch) in Poland as of 31.12.2003⁵

The activities and functions of academic libraries of state and non-state higher education institutions, academic and vocational, are regulated by two acts: the Library Act of 1997 and the Higher Education Act of 1990. Main groups of clients of academic libraries are university staff and students from over the 350 institutions of higher education. It should be noted that number of full-time and part-time students has almost tripled since 1989. Most of academic libraries are supervised by the Ministry of National Education and Sport. Some of them report to the Ministry of Health, the Ministry of Culture and National Heritage as well as the Ministry for Infrastructure and Ministry of Defence. Academic libraries are financed from the budgets of their parent institutions from the resources of the appropriate ministries, e.g. the Ministry of National Education and Sport. These funds usually cover only current expenditure. Libraries can also be supported by the Ministry of Science and Information Society Technologies which is responsible for two budget sectors: “science” and “information

⁴ A status of the national library has also the Jagiellonian Library in Kraków.

⁵ Central Statistical Office. Culture in 2003 [in Polish]

http://www.stat.gov.pl/dane_spolgosp/warunki_zycia/kultura/2003/index.htm [accessed on 20 May 05]

technology". Several Polish libraries have had the opportunity to participate in research projects financed from the EU or other foreign grants.

Library statistics and standards in Poland

Academic, as well as other libraries have been collecting statistics for many years. However, there is no unified system of national library statistics. The Central Statistical Office CSO gathers data on libraries every second year. Statistics supplied by libraries are based on the forms of two types: for research libraries and for other ones. CSO collects the following data: library collections (e-serials not included), library staff and registered users, circulation data and library premises. Libraries are not requested to send data on: expenditure, OPAC's, electronic sources and services, computer equipment, Internet access, educational activities. Reports on library statistics are published in paper form and electronically on the homepage of the Central Statistical Office. However, there are only raw data (without performance indicators) grouped according to library type. An additional source of data about academic libraries is an annual *The Higher Education* published by the Ministry of National Education and Sport. However, library statistics included are insufficient for comparable analyses. It is possible to analyse a general library situation and trends, but more complex library evaluation is very difficult if not impossible.

The Polish Committee for Standardization established in 1924 is responsible for the standardisation in Poland. The collegiate working bodies - Technical Committees (TC) - develop Polish Standards (PN) and other standardization documents within specified subject areas and gather specialists delegated by governmental administration bodies and several organizations. TCs transpose also European Standards and ISO Standards into PNs in the language of origin. Activities in the area of librarianship and scientific information are conducted by a Technical Committee *General Aspects Standards, Health and Environmental Protection Division*. Its most important achievement is the translation of the standards ISO 11620⁶ and ISO 2789⁷. That translation is most useful for systematic and comparable library evaluation in Poland. Especially that the library statistics forms of the Central Statistical Office are not consistent with ISO 2789.

Accreditation bodies and rankings in popular magazines

From the beginning of the 90-ties there is a tendency in the Polish academic society to systematise and to formalise the quality assurance in higher education. A legal higher education body responsible for the improvement of teaching quality is the State Accreditation Commission⁸ established in 2002 by the Minister of National Education and Sport. The Commission presents opinions and motions to the Minister related to the assessment of teaching quality in different study areas. It evaluates teaching conditions and the training of teachers. One of the stages of the quality evaluation procedure is the self-evaluation report submitted to the Committee by the institutions of higher education. Current accreditation practice has shown a tendency to deal with library issues in a very general manner. The official guide of the University Accreditation Committee from 2001 contains a three-page application form for accreditation listing 14 main issues. Library services are reviewed under a broader question *Basic information on the educational infrastructure*. The following data

⁶ ISO 11620:1998, ISO 11620:1998/AD1: 2003 Information and Documentation. Library performance indicators

⁷ ISO 2789:2003 Information and Documentation. International Library Statistics

⁸ <http://www.men.waw.pl/pka/index.php> [accessed on 20 May 05]

concerning libraries are required within the *Access to collections*: size of university or department library collections, number of seats in reading rooms, educational materials) (Jazdon 2002). The guidance list does not include network resources, bibliographic instructions, funding, staff etc. There is neither obligation nor recommendation to evaluate library quality through student surveys.

Most important Polish weekly magazines conduct rankings of higher education institution once a year. The libraries are assessed according to different criteria. One magazine considers: collections, measured in the number of volumes owned by the university library, Polish and foreign periodicals, measured in the number of subscription titles, total number of seats in reading rooms, number of seats per student and library automation. Other, which assesses the entire university infrastructures using 7 indicators, considers the following three criteria when evaluating library services: the library and its status, total number of computers available to students, number of computers with the Internet access compared to the total number of computers (Jazdon 2002).

Quality initiatives and user surveys in Polish academic libraries

Political and economical changes in post-communist Poland have prompted libraries to develop new services focused on users. Many libraries make efforts to introduce modern managerial models, improve the quality of existing services and develop new ones. A great interest can be observed in management, especially strategic management. However, there still are libraries without clear mission or well-defined goals and objectives. Library managers had to learn new methods of management and adjust to new decentralised patterns of distribution and allocation of funds within universities. Library organisation and management efforts concerned not only budget and collection, but also automation, staff training and development and the quality of services, as well as marketing strategies. Great interest in quality and performance measures issues in Polish libraries can be observed. There were a lot of discussions in professional journals, several significant conferences, important dissertations, projects and small initiatives in this area. Quality initiatives are concentrated mainly around the TQM, ISO 9000 and strategic planning. Studies on users have been conducted for many years in Poland. Academic libraries usually use self-administrated questionnaires and library staff also perform data analyses. Many collect users' opinions to evaluate existing or planned services, especially to assess electronic ones. The emphasis on the library users and their expectations and satisfaction is reflected in many conferences and publications.

One of the important quality initiatives, which has affected a development of a nation-wide library performance measurement was the project financed from the EU Tempus grant entitled: *Development of Library Management as Part of the University Total Quality Management* realised by four Polish libraries⁹ with four EU universities¹⁰. That two-year project started in 1998. Its objective was to prepare the libraries participating in the project for the implementation of TQM techniques. Six categories of outputs of the Project can be described as follows:

- the analysis of the current state of activities of the libraries;
- the analysis of user needs;

⁹ Cracow University of Technology (Project co-coordinator), University of Technology and Agriculture in Bydgoszcz, Szczecin University, Kielce University of Technology

¹⁰ Delft University of Technology, University College of London, Universidad de Cadiz, National Technical University of Athens

- preparation of general and specific strategic plans for the libraries involved;
- an upgrade of the personnel's knowledge about library quality management and EU standards;
- the introduction of monitoring of the quality of services / a system for user feedback;
- dissemination of the results of the Project throughout workshops and a national conference.

In order to achieve the established goals of the Project the "Analysis of current state of libraries with selected performance indicators" was prepared. Another important document was the one based on the survey of user needs carried on at the libraries involved. In that survey, as well as in the analysis of its results, the libraries adopted professional British software LIBRA. Basing on both the above-mentioned analyses, the libraries involved in the Project prepared their own general and specific development plans. Realisation of these plans in turn required some organisational changes at the libraries, staff training and the introduction of new monitoring and evaluation methods (Derfert-Wolf and Bednarek-Michalska 2000, Derfert-Wolf et. al. 2004).

Performance measures, evaluation standards: the need for common Polish patterns

For many years the libraries have been evaluated at the institutional and national level on the basis of quantity indicators limited to input measures. Such a situation is still in Poland. A number of researches have been performed, however, they were focused on selected library processes only and no complex statistical research was carried on. Currently conducted surveys are predominantly in-house produced by particular units or groups of units and, generally, deal with the issues of library collection, employment and working hours [Górny and Jazdon 1997, Górny et al. 1999]. Separate research and analyses conducted by individual libraries cannot be used to compare the performance of different libraries. Outputs were taken into account only in some individual surveys. The impact of research conducted was limited to individual library so that the research results did not affect other libraries. However, there are no uniform standards and evaluation methods for library assessment and there is a strong requirement of emphasis on quality, performance measures and better use of statistics. During the 1990s there were a lot of discussions and conferences in Polish academic libraries about the library evaluation standards and methods (Derfert-Wolf and Bednarek-Michalska 2000, Sokołowska-Gogut 2001). A wide range of foreign professional literature on performance indicators was consulted and translated.

The problems mentioned above, concerning current situation in library statistics, accreditation efforts and researches into library performance in Poland and especially lack of unified procedures or evaluation methods (standards and performance indicators) caused the necessity for the elaboration of instruments and methods to support managerial processes. One of the important barriers is lack of official recommendations to use international standards such as ISO 11620. Due to different criteria used to assessment processes, it is hard to evaluate the advantages of modern approaches and managerial methods introduced. The same refers to any attempts to compare library performance. It is also very difficult, if not impossible at all, to monitor or plan future actions. The main reason for that is the lack of suitable precise data systematically collected from various libraries. Nor can be used for those purposes limited data collected every second year by the Central Statistical Office. It is also difficult to plan any activities properly without an objective knowledge of the existing state. Therefore current efforts to determine unified standards and library performance indicators are a starting point to the full implementation of reliable analysis-based management. Such nation-wide library

standards have become necessary not only for librarians themselves to assess their libraries work and compare its effectiveness with other libraries, but also for outside units such as the State Accreditation Commission assessing the quality of higher education. The experience gained by libraries within the mentioned Tempus Project gave an impulse to use similar methods for other Polish research libraries. Participants of the Project were convinced that unified standards were essential basis for further development of individual libraries as well as for library policy on a nation-wide level. The next major activity concerning library statistics and performance measuring was a national conference *Comparative study of Polish research libraries* (Derfert-Wolf et. al 2004, Sokołowska-Gogut 2001) which objective was to work out the conception, methodology and criteria for the assessment of Polish research libraries. The conference was preceded with the survey which aim was to illustrate library performance in selected areas, like funds, collection, staff and users. As a result of conclusions formulated during the conference concerning mainly a need for comparable statistics and preparing nation-wide methods of library evaluation, experienced librarians and experts in library management formed a Task Group for Standardisation.

“Performance Analysis for Polish Research Libraries” Project

Task Group for Standardisation

The Task Group for Standardisation¹¹ was formed in 2001, initially as an informal team. The activities of the Group were also incorporated into the overall plan of tasks to be undertaken by the Standing Conference of the Directors of Higher Education Libraries. At the moment the Task Group works within the national project "Performance Analysis for Polish Research Libraries" based on the agreement on cooperation (2004) signed by eight institutions employing members of the Group. The Adam Mickiewicz University in Poznań coordinates the activities of the Task Group. The Project is partially financed from the funds of the Ministry of National Education and Sport. The main objectives of the Project are:

- to define methods for the assessment of Polish research libraries;
- to select a set of performance indicators and standards for library performance (quantity, quality and effectiveness).

The specific goals leading to meet above objectives are:

- to gather libraries' statistical data for a computer database;
- to conduct a comparative research of Polish libraries applying in the analysis foreign performance indicators;
- to prepare and publish yearly reports.

At the first stage of the Project performance indicators are derived mainly from statistical data. Basic tools for the realisation of the task are a web-based questionnaire for the survey of library performance and special software for the collection and analysis of electronically submitted data (Derfert-Wolf et. al. 2003, Derfert-Wolf et al. 2004). It assumed that all Polish research libraries would have the possibility to register in the database and fill in the questionnaire once a year.

A questionnaire and performance indicators

¹¹ To the Task Group for Standardisation belonged: L. Derfert-Wolf (University of Technology and Agriculture, Bydgoszcz), E. Dobrzyńska-Lankosz, AGH University of Science and Technology, Kraków), M. Górny (Adam Mickiewicz University, Poznań), E. Górska (Warsaw Public Library - The Central Library), M. Górski (Cracow University of Technology, Kraków), A. Jazdon (Adam Mickiewicz University, Poznań), M. Kłossowska (Central Library of Labor and Social Protection, Warsaw), D. Pawelec (University of Silesia, Katowice), A. Sokołowska-Gogut (Cracow University of Economics, Kraków), T. Wildhardt (Pedagogical University, Kraków).

Authors of the questionnaire encountered many difficulties implied by the lack of national patterns or standards for library statistics and effectiveness measurement to follow. Therefore they examined many publications on library performance and adapted to Polish realities model foreign solutions. Original version of the questionnaire (as of April 2003) was based on a form prepared and implemented within the above-mentioned TEMPUS JEP Project (2000) and the survey for the Kraków conference (2001). The questionnaire took into account all the elements of library system and its environment. At the first stage of the Project the survey was focused on inputs and outputs, particularly library materials, services, financial expenditure, staff and professional activities, library products and processes. Data required to be entered into the questionnaire were mainly raw statistical ones easily available at the libraries and parent institutions. They have been formulated in such a way that they were easy to be answered. It means that all the data required were easily accessible or easily computable and unified for all the respondents. In the first part of the questionnaire only numerical data (e.g. size of collection) or YES/NO answers were required (e.g. electronic ordering of books). In the final part the values of the 19 selected indicators are required e.g.: library expenditure per student / user, the ratio of library budget to the budget of its parent university. Further indicators were calculated automatically based on data from the questionnaire, e.g.: the ratio of users registered to potential library users, number of books added per student / user, number of students / users per library staff member. Last year the questionnaire form and instructions for collecting and calculating data was improved according to international recommendations, guidelines and standards [ISI 11620, 1998, ISO 2789, 2003) and problems reported by librarians or observed by the administrator of the database. All modifications resulted also from experiences of two-year data gathering. The Group prepared special explanatory notes and comments, where necessary accompanied by example formula. Questions concerning financial issues proved most difficult to be formulated. As it was mentioned before, official national statistics do not register such data thus individual libraries collect and present data according to their own concepts. The same refers to data on the remote access and usage of electronic resources. It also turned out that further clarification and unification of statistical data is needed to make the entering data easier and to enable the comparison among libraries of different types. These conclusions resulted in some changes and completions based mainly on the standards ISO 2789 and ISO 11620. A special attention was paid to information services, electronic sources and usage. Formulating of the questions was preceded by the in-depth analysis of different e-collection usage statistics provided by suppliers of database and e-journals subscribed by Polish libraries. Another important modification concerned terminology, more detailed clarification of staff and more detailed notes and comments. Current version of questionnaire (as of April 2005) consists of 50 complex questions and 16 indicators. Additional 62 indicators are calculated automatically. The Group believes that the above-mentioned amendments should result in the increase of number of libraries engaged in the Project.

It is necessary to explain briefly how a set of indicators was chosen and what criteria we used for this selection. At the current stage of the Project, performance indicators in most cases are derivatives of data from the questionnaires. In general, there are indicators concerning: expenditure, collection development, facilities, library services and processes including user education, library staff and professional activities. Some of these indicators influence level of quality of the academic library, in direct or indirect way. As mentioned above, they are provided by libraries or easily calculated by the software. The values of all the automatically calculated indicators are presented immediately after a library director has validated data entered in the questionnaire.

A relatively great amount of indicators designed to comparative research results from:

- the need for a comprehensive analysis of current state of Polish research libraries;
- the need to cover all aspects of library activities included in questionnaires;
- the need to develop standards for library evaluation in the future, on the basis of current performance indicators.

There are additional reasons for such a set of indicators. One of the assumptions of the Project is a development of unified methods of delivering statistical data, calculating and publishing average values of performance indicators, which can be useful for different purposes, both for libraries and another institutions and authorities. It is worth adding that a relatively large number of indicators provided do not burden the library staff responsible for the entering of data, as the indicators are calculated automatically. Most of our performance indicators are formulated according to international standards and guidelines.

Data collection software

Another challenge for the Task Group for Standardisation was software to be used for the collection and analysis of data obtained from the surveys, based on the above-mentioned questionnaire. The works on the computer programme started in 2002. A concept for the software was based on the following initial assumptions:

- libraries will be able to fill in the forms, modify and send data on-line via the Internet;
- those performance indicators which are not present in the questionnaire will be automatically calculated from the data entered in the form;
- control and verification of the accuracy of data in the fields will be automatic;
- the Task Group for Standardisation will be able to carry out multi-aspect comparative studies and performance indicators from all the libraries. The analyses might be made for libraries of various types, for given years or timeframes, categories of data and their combinations;
- libraries involved will get access to analysing functions for their own data and performance indicators for a given year or timeframes.

At the moment the software hosted by the Library of the Adam Mickiewicz University in Poznań, consists of the following elements:

- an Internet web-site¹² with direct links to information about the Project, a set of instructions, questionnaires, results of research, useful links to sites dealing with performance indicators and library statistics;
- a module for librarians - an on-line questionnaire with tools for automatic control and verification of the accuracy of data entered in each field, also an adequate formulae to calculate selected performance indicators. There are two versions of the questionnaire: for academic libraries and for public libraries. The module for librarians enables also multi-aspect analysis of data concerning one's own library according to various criteria;
- an administrator's module enables registration of libraries and individual persons entitled to transmit data and work out analyses. It is also used for direct contacts with library staff responsible for filling-in the questionnaires;
- the database designed to incorporate and register data from the questionnaires has been given a dynamic form i.e. the administrator can change, add or delete any fields corresponding to the questions from the questionnaire;
- a module for the Task Group for Standardisation designed as a tool to carry out statistical analyses on data and performance indicator.

The majority of the initial conceptual frameworks for operating the database within the Project have already been successfully implemented. Present activities concern software

¹² <http://ssk2.bu.amu.edu.pl/standaryzacja/> [accessed on 20 May 05]

improvement and further development. Special attention is paid to the improvement of possibilities of data analysis, both for the Group and library directors. At the moment each library registered is able either to fill in the questionnaire, or to display its own data, question categories and performance indicators for given years. It is planned to enable an automated comparison of given value of one's own library with the average value of a given type of libraries. In the future also possibilities of web-based multiaspect data analysis by different criteria will be implemented.

Data gathering

Since autumn 2003 the programme for statistical data collection is accessible for each library registered in the system. By 15 May 2005 in the Project database there are registered 57 research libraries of different types, including 47 academic libraries (39 state-owned libraries and 8 non state-owned ones). The questionnaires for the year 2002 completed and accepted 17 libraries. 31 libraries completed the questionnaire for the year 2003. The greatest group of them are technical university libraries (8 in 2002 and 10 in 2003) and university libraries (6 in 2002 and 8 in 2003). Other academic libraries are: agricultural, economical, pedagogical and medical libraries. Unfortunately, the number of returned questionnaires is still not satisfactory and does not allow for detailed research. The reasons for that seem to be of different types. Firstly, the lack of some data required in the questionnaire or difficulties in obtaining them might have discouraged some libraries from joining the Project. It is worth pointing out here again that some data, which are necessary to have the questionnaire accepted, had not been collected so far by the Central Statistical Office (CSO), and therefore they may be difficult to be found out. Secondly, the participation in the Project depends only on good will of directors, contrary to the compulsory delivery of data to the CSO. Heterogeneous organisational structure also can make it impossible to deliver data from some libraries. Finally, the lack of financial independence often makes it difficult to receive adequate data from university administrators. These reasons may prevent some libraries from filling in the form. Additionally, despite the high level of unification of the questionnaire and detailed explanatory notes and comments, it is noticed that librarians still have many problems while filling in the form, which results in difficulties with its acceptance. Sometimes a misunderstanding of data requirements or wrong interpretation of questions causes mistakes (e.g. wrong ratio), which need correction. In individual cases some questions are also inadequate to specific library environment. Because of that the administrator of the database and members of the Group are ready to assist library staff at each stage of completing the questionnaire and many times they were asked by phone or e-mail to clarify some questions.

Results of the survey

The results of the analysis of data for 2002-2003 have been presented in the Appendices 1 and 2. They are performance indicators, including ratio of expenditure in library budgets within three groups of the analysed libraries: university libraries, technical university libraries and all surveyed academic libraries. The average values and medians have been included. At the website of the Project also maximal and minimal values can be found. They allow for the comparison of the results of one's own library with better or worse results of other libraries without the necessity to reveal the names of compared libraries. The results of the research conducted within the Project in the years 2002-2003 compared to previous research [Derfert-Wolf et. al. 2004, Sokołowska-Gogut 2001] show that average values of indicators for academic libraries, and especially for technical university libraries, are representative. However, the data concerning research libraries in general do not seem to be quite reliable.

Some significant differences in average values of indicators for 2002 and 2003 may have resulted from different numbers of libraries involved (different numbers of questionnaires submitted) in compared years. Such a thesis supports the case of the group of university libraries, among which only five the same libraries submitted the questionnaires in the following years, whereas other libraries in that group either provided the questionnaires only once in 2002 or joined the project in 2003.

Other differences of indicators in 2002 and 2003 most probably reflect general tendencies observed in the libraries, e.g. the decrease of a value of the indicator *'registered users from the university as a percentage of potential users'* or the increase of funds for salaries etc. On the other hand, it is not justified to discuss tendencies for given types of libraries or indicators due to a relatively short period of observations and still not high enough number of libraries involved in Project. Only after a few years of research it will be possible to verify the tendencies – whether they are permanent and reflect real changes.

Detailed results of the surveys have been presented in the Appendices 1 and 2. In this paragraph you will find only some comments on Polish academic libraries development, based on the above-described research. The authors focus here on those results observed which may directly or indirectly influence the quality of library services.

The ratio of expenditure of different types in library budgets presents Fig. 1. To make the diagrams easier to be read, the categories of expenditure have been divided only into main groups. The elements of each group are specified in the Appendix 2. It is observed (Fig. 1) that library budgets are constructed in such a way that around 75% of total expenditure is staff salaries and acquisitions. Other elements of library budgets compose a relatively small part of total expenditure. Therefore the statement that libraries can freely create their financial strategies seems to be unjustified. A significant element of such a strategy should be the improvement of services, which implies increased expenditure for training, promotion and modernisation of technical foundation for services (Appendix 2). Even if we notice in library budgets some expenditure for these activities, they are highly inadequate to the needs.

The results of the cost analysis are also reflected by some indicators such as average cost per user and average acquisitions cost per user (Appendix 1). The indicator related to the structure of library staff shows that in all analysed libraries number of staff involved directly in user services significantly outnumbers technical and other library staff (Appendix 1, indicator 13). Slightly increasing tendency of that indicator may mean that libraries pay greater attention to user services. On the other hand, building of many new libraries and modernisation of the existing ones implies changes in library staff structure. New user services posts, including both circulation and information, are often created at the cost of technical posts. Over a half of library staff deals directly with users.

Qualifications of library staff are getting better and better - the average proportion of staff with higher LIS education among the basic library activities staff in all analysed libraries was 50% (Appendix 1, indicator 14). That tendency is very advantageous.

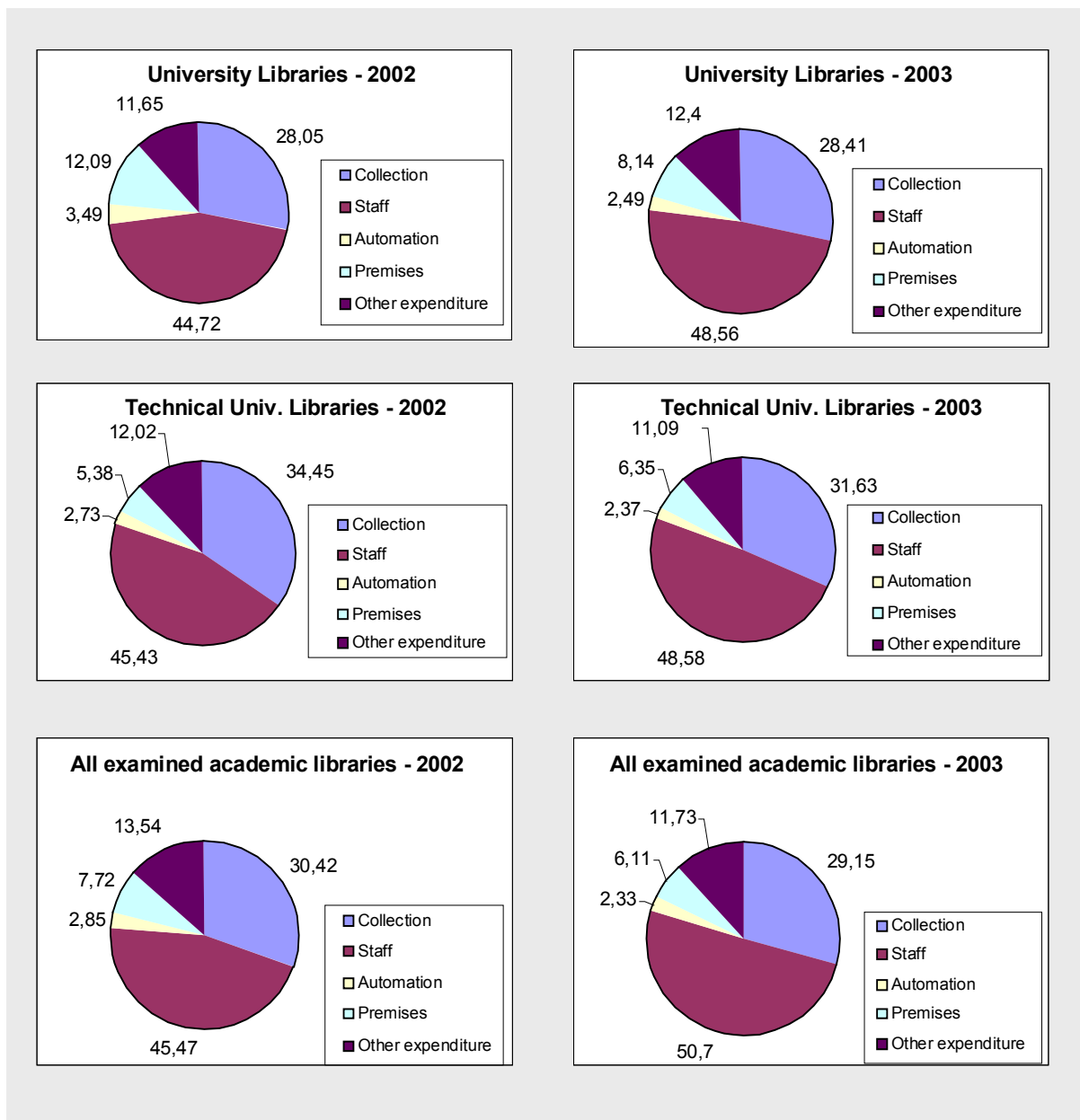


Fig. 1 Elements of library budgets in 2002 and 2003

Quality of library services depends among others on the organisation of library space, its accessibility, open access to collections and users comfort of work. In that context Polish libraries do not come up to European (e.g. EU) standards. A significant increase of the number of students was not followed by an adequate development of library infrastructure and collections. Hopefully, many new investments in library buildings will change that disadvantageous picture. A development of collections, however, seems to be less promising (Appendix 1, indicator 6). Although the expenditure for library collections are the second important element of library budgets, financial constraints make their increase practically impossible without the increase of general funds for libraries. Therefore the visible development of e-collections (Appendix 2) seems to be the right solution.

User satisfaction analysis

Standards and indicators are tools for library performance evaluation (both qualitative and quantitative aspects). The quality implies the importance of performance indicators measured on the basis of the evaluation made by users. Only such an approach gives complete material for library assessment. User satisfaction is one of the performance indicators widely used in the area of quality measurement. IFLA guidelines recommend two indicators to examine user opinion: user satisfaction measured at two levels ("general user satisfaction which evaluates the service of the library as a whole and user satisfaction with individual services or components of those services, e.g., opening hours or attributes of the librarian") and user satisfaction with services offered for remote use (Poll and te Boekhorst 1996). Franklin and Nitecki (1999) present traditional methods and techniques to user surveys:

"User satisfaction in academic libraries has typically been measured by selecting a representative sample of library users and administering a survey instrument to the sample population. [...]. Surveys are usually administered by mail or electronic mail, or distributed in randomly selected classes to undergraduate students. Response rates typically vary considerably among user groups and institutions. Data gathering is commonly based on the use of a five point Likert scale, where a low score represents low satisfaction and a high score represents high satisfaction. The questions aimed at measuring user satisfaction typically address specific items related to three major categories: library collections, library services and library facilities/equipment. More recent user surveys conducted at ARL libraries have also focussed on these three categories, but have added an additional question to gauge a user's overall satisfaction with the library".

At the moment our questionnaire does not refer to user satisfaction nor can any indicators of that type be calculated on its basis. The Task Group is fully aware that such indicators would significantly enrich data collected. The analysis based on data including user satisfaction indicators would reflect much better real performance of libraries. Therefore the Task Group's latest initiative is a unified, nation-wide user survey conducted with common tools e.g. standard questionnaire based on five point Likert scale on a uniformly calculated samples. Users will be asked to rate a specific service and also to rate the overall satisfaction with the library service. The methodology will be based on ISO standard 11620 and IFLA guidelines. The results obtained will be quantified and presented as numerical scores. Together with other performance indicators they should be a valuable management and assessment tool.

Some Polish academic libraries are already experienced in user expectations and satisfaction surveying. They can successfully serve as testing beds for the planned nation-wide study. As it was already mentioned, four libraries analysed user needs within the Tempus Project using professional computer programme - the LIBRA software package produced by the Priority Search, UK (Buzdygan et. al. 2000). In the initial stage of the survey the issues important for users were determined. Library users were asked to answer a question: "How can the library service be improved?" Suggested improvements were selected to be included in the questionnaire. A questionnaire consisted of three parts: a demographic section, a rating scale section and a paired comparison section. The last section was calculated by a computer programme through the pairing of 24 key issues previously identified as important. Respondents had to indicate their priorities from paired issues. As a result, the programme presented a list of users priorities.

Conclusions

The project “Performance Analysis for Polish Research Libraries” conducted by the Task Group for Standardisation is focused on the development of methods and standards for the evaluation of quality of research libraries including the academic ones. The Group is convinced that such a development of methods and standards ought to be preceded by a several-year examination of performance indicators based on library statistics and user satisfaction research. In the next stage the results of such a research will be used for the assessment of the degree to which libraries comply with the standards required. The evaluation of current performance of research libraries is the first stage of that task. For this purposes a described above tool to be used nationally-wide has been developed.

Although the works on a national level have been conducted only for a relatively short period, they already have become useful for library directors as a means for library self-diagnosis, planning and evaluation. Thanks to unified data provided they could also serve as a control tool for internal and external bodies. Moreover, libraries can already compare their own data for the previous years with average, maximum and minimum values of data for research libraries of different types.

The methodology and tools used in the Project need to be improved, completed and developed in the following directions:

- to continue the process of standardization of statistical data;
- to prepare guidelines for the interpretation of already used indicators;
- to select more adequate performance indicators concerning electronic environment;
- to prepare a comment form for comments and questions from the respondents (libraries);
- to calculate (on the base of the already existing data) further performance indicators from ISO 11620
- to develop standard user surveys and computer software for data analysis focused on the determination of quality indicators derived from quantified user satisfaction assessment;
- to develop a nation-wide set of standards and a clearly determined set of performance indicators for each standard, including formulas and interpretations.

The success of the Project depends strongly on the mechanisms of persuading libraries to be involved. Therefore one of the important aims of the Task Group is to promote the Project so that librarians understand advantages of the current and future usage of the tool described above. They need to be fully aware that the effort of providing data is worth being made.

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	Performance indicators	University libraries				Technical university libraries				All examined academic libraries			
		2002		2003		2002		2003		2002		2003	
		average	median	average	median	average	median	average	median	average	median	average	median
1	Cost per user in PLN ¹³	191,22	203,5	182,09	164,8	157,79	148,2	171,35	157,5	195,47	203,5	180,28	146,10
2	Acquisition cost per user ¹⁴ in PLN	45,65	39,5	53,81	50,15	56,59	48,36	56,78	46,69	57,44	48,41	55,67	46,02
3	Library budget as % of institutional budget	4,81	4,95	4,75	4,60	2,57	2,57	2,59	2,49	3,62	2,76	3,28	2,74
4	Registered users as % of potential users	73,81	84,40	70,56	75,76	72,22	69,35	65,88	70,17	75,3	76,2	69,93	74,52
5	Total books per user	21,84	24,40	20,03	22,84	11,44	11,90	12,45	11,79	17,47	13,92	31,45	12,62
6	Books added per user	0,20	0,10	0,26	0,18	0,20	0,20	0,18	0,18	0,25	0,16	0,26	0,19
7	Loans per registered user	7,7	6,8	8,9	8,89	7,9	6,87	7,9	7,09	7,78	6,83	9,63	7,31
8	Loans per library staff member	2037,6	1467,6	2446,8	2177,7	2904,9	1850,4	2215,2	1992,5	2372,1	1527,5	2852,1	1912,6
9	Users per library staff member	341	293,0	364	339,33	451	409,0	432	403,89	376,18	368,92	408,01	390,38
10	Total library space per user	0,34	0,35	0,26	0,27	0,18	0,15	0,18	0,15	0,27	0,22	0,20	0,15
11	Users per seat	116,0	78,3	109,2	63,59	86,0	85,60	95,04	76,76	91,27	74,10	96,37	66,16
12	Open access printed books as % of total printed books	8,7	8,7	10,7	6,5	11,13	9,76	9,59	7,41	9,86	9,33	9,52	6,37
13	User services staff as % of total staff	48,9	45,6	54,0	53,5	57,9	59,1	58,6	57,1	54,51	58,01	56,33	55,20
14	Staff with higher LIS education as % of total staff	34,8	31,4	43,6	47,2	50,0	51,5	51,5	53,1	42,29	42,52	46,67	47,20
15	Time of document acquisition and processing in days	16,17	11	37,57	30	14,38	14	16	17	16	14	20,22	14

Appendix 1. Selected performance indicators for Polish university libraries, technical university libraries and all examined academic libraries (2002-2003)

¹³ 1 PLN ~ 0,25 EURO

¹⁴ User – all university users including students and university staff

Various expenditure as % of total library expenditure	University libraries				Technical university libraries				All examined academic libraries			
	2002		2003		2002		2003		2002		2003	
	average	median	average	median	average	median	average	median	average	median	average	median
Collection	28,05	31,05	28,41	25,80	34,45	34,50	31,63	33,77	30,42	31,73	29,15	26,98
including:												
books	5,57	4,55	7,79	6,90	7,77	5,72	6,39	5,35	6,92	5,57	8,03	6,02
Polish printed serials	0,68	0,64	1,69	1,21	1,93	1,99	1,98	1,43	1,55	1,16	2,65	2,0
foreign printed serials	17,17	18,49	13,61	10,0	19,59	17,64	17,37	16,42	17,21	14,45	13,16	11,0
special collection	1,0	0,93	0,74	0,70	1,5	1,67	1,04	0,78	1,14	0,93	0,96	0,59
electronic sources	3,63	3,00	4,57	4,64	3,66	3,56	4,85	4,73	3,6	3,41	4,35	4,50
Staff expenditure	44,72	43,79	48,56	48,91	45,43	46,2	48,58	49,37	45,47	46,2	50,7	50,6
Automation	3,49	2,83	2,49	1,35	2,73	2,36	2,37	1,66	2,85	2,05	2,33	1,28
including:												
Hardware	1,46	0,89	1,14	1,07	2,03	1,87	1,32	1,27	1,64	1,3	1,21	1,0
Software	2,03	1,94	1,35	0,28	0,7	0,49	1,05	0,39	1,21	0,75	1,12	0,28
Premises	12,09	8,03	8,14	7,4	5,38	4,03	6,35	6,25	7,72	4,62	6,11	5,2
including:												
maintenance of buildings	10,3	5,81	6,96	6,7	4,84	3,9	5,69	6,0	6,67	4,12	4,83	4,70
modification of buildings	1,79	2,22	1,18	0,7	0,54	0,13	0,66	0,25	1,05	0,5	1,28	0,5
Others expenditure	11,65	8,41	12,41	7,47	12,02	9,58	11,09	9,26	13,54	9,45	11,73	8,85
including:												
furniture, equipment	1,29	1,2	0,6	0,42	2,14	1,18	1,31	0,74	1,8	1,2	1,06	0,5
administration and service	3,44	2,85	3,27	3,05	2,44	2,15	2,65	2,59	2,98	2,66	2,82	2,70
staff training	0,28	0,28	0,42	0,36	0,41	0,21	0,52	0,39	0,32	0,20	0,49	0,38
promotion	0,15	0,13	0,14	0,10	0,05	0,03	0,18	0,09	0,12	0,07	0,15	0,07
depreciation	2,53	2,05	3,51	2,6	3,41	3,49	3,67	3,83	3,3	3,02	3,59	3,5
miscellaneous	3,96	1,9	4,47	0,94	3,57	2,52	2,76	1,62	5,02	2,3	3,62	1,7

Appendix 2. Various expenditure as % of total library expenditure 2002-2003