

ACCESSING SCIENTIFIC INFORMATION IN SERBIA: SIX YEARS EXPERIENCE

Biljana Kosanović,

National library of Serbia, Belgrade

Abstract: The largest part of the acquisition of foreign scientific and technical information in Serbia is carried out through Consortium of Serbian Libraries for Coordinated Acquisition (KoBSON). In this article an overview of all subscribed resources is given, followed by basic statistical data about their usage. Some possibilities of the KoBSON service offered to the research community in Serbia are pointed out. In addition, situation in Serbia regarding accessibility of scientific information is compared to the conditions in neighboring countries, as well as countries participating in eIFL program. Recent activities within KoBSON, as well as the future activities aimed at more effective use of subscribed resources, are also reviewed.

1 Introduction

Computer technology development, especially Internet, had in recent years large impact to the support to accessing scientific literature. The world came closer to the fulfillment of the prediction that not only the whole periodical scientific publishing but other types of scientific publishing as well will have the electronic forms. These changes, as much as they were predicted and wanted are, however, accompanied by the enormous growth of scientific publication, the continuous rise of the journal prices and increased users' requests for the simple access independent of place and time. National libraries, although having the limited funds, face the commitment to provide their users with as much as possible scientific resources that they could retrieve in a shortest time possible. The aim is to enable users to access and use the information they need.

Having in mind that personal computers exist only twenty years, and Internet less than ten, libraries undergo pressure to change, either by allowing their basic activities to disappear or by changing them significantly. As many other libraries in the world [3,4], we in Serbia have answered to that challenge by forming the consortium, which is the new form to organize. KoBSON – Consortium of Serbian Libraries for Coordinated Acquisition functions in our country six years already [5]. The main aim for establishing KoBSON was to rationalize the investments in the acquisition of journals. The aims were later extended as to enable the full comfort to the users and to introduce the new technologies into local scientific publishing. This aim we achieve by: (1) fulfilling the needs and improving the user comfort for the whole research community in Serbia; (2) endeavoring to obtain the resources and services that we are subscribed on for the lowest price and under the best payment conditions; (3) continually supervising and evaluating the degree of utilization of subscribed resources. The aim of the evaluation is to optimize the acquisition and it is achieved by integrating the information on users' needs, service prices, payment conditions and degree of utilization of the subscribed resources.

2 Services for the users

The acquisition fully depends on the needs of the research institution in the country. The annual subscriptions were every year, except for the current year, preceded by the survey that

was performed by the libraries of the involved institutions. From this year on, the acquisition of journals, especially those in paper form will be based on the citation of the journals in the papers that our scientists publish. This will be done by using as information sources *MiuWoS*, the papers of our scientists in Web of Science [6], and *SCIndeks*, the Serbian citation index [7].

Since the abundance of subscribed resources represents more than an arbitrarily collected assemblage of data it is necessary to make an additional effort to enable their efficient usage. This implies in the first place the activities that would lead to the improvement of the comfort for users taking into account the speed and stability of the access to the subscribed resources. In order to achieve this the separate portal (www.nbs.bg.ac.yu/KoBSON) was established at the official web site of the National library of Serbia. The portal offers necessary information about subscribed contents, projects in which Consortium participates, as well as about lectures and presentation in the field of scientific information exchange. The number of visits to this portal is steadily increasing, and in year 2007 it has reached a stable number of 2700 visits per day (Figure 1).

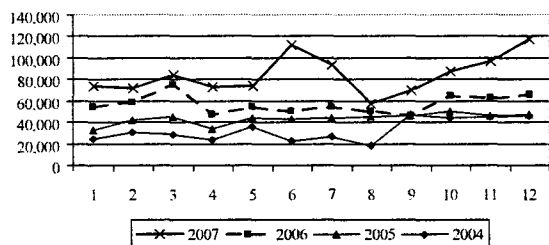


Figure 1. Number of visits to KoBSON page per year and per month

From the librarians' point of view the advantage of the portal is that there is no need anymore for the individual libraries to catalogue the electronic resource in order to make them accessible. From the users' point of view, the portal represents the route to the real "fusion of information"

[2], that is, the possibility to obtain the integrated results from a number of different resources. It can be best illustrated by the KoBSON's service ELEČAS, where in addition to data on impact factor and availability of a particular item in paper or electronic form, users are also provided with a direct link to the editorial board of the journal in which they would like to publish. Our data show that this is the most visited service of KoBSON portal.

KoBSON portal is accessible without any fee and authentication to anyone using the academic IP domain in Serbia. The remote access is enabled since 2004, that is "from home" through the commercial provider, under the same conditions as from the IP space of academic network. The only additional request is that a user signs the license about the usage conditions [8] and deliver it to the librarian of his/her institution. The supervision of the usage of services shows that about 30% of our users uses the information resources outside the regular working hours – during the night, weekends and holidays. This type of access is also used by research institutions that are not connected to the academic network, and which in Serbia unfortunately still exist. We have today 9500 researchers registered for this mode of work, which is approximately one third of all the registered researches according the last census [9] done by the Statistical Office of the Republic of Serbia – approximately 22,000 researchers and 8,000 graduate students. One of the KoBSON priority tasks in future that can be derived from these data is to increase the number of well-informed young researchers in order to spread this modality of work to the largest part of the research community.

3 Materials Offered through KoBSON

Presently KoBSON provides users with more than 30,500 foreign scientific journals in both paper and electronic form, and we endeavor to increase that number. The journal collection that is offered to the users in Serbia is in high degree

covered by the list of journals *Web of Science* (WoS, all three citation indices edited by *Thomson – Institute of Scientific Information, Philadelphia*) and which encompasses impartially speaking the most significant world journals (Figure 2). Many world libraries use this source to evaluate their collections. Since 2006 the collection of e-books is also placed at users' disposal.

	WoS	KoBSON	%
Social sciences	1354	1087	80.28
Humanities	46	39	84.78
Engineering and technology	1065	727	68.26
Medical sciences	2088	1451	69.49
Agronomy	355	231	65.07
Natural sciences	3148	2125	67.50

Figure 2. The coverage of WoS subjects expressed by the number of titles

The whole project was from very beginning financed exclusively by the Ministry of Science of the Republic of Serbia and the fund was increasing in proportion to the increasing needs of the research community (Figure 3). KoBSON is due to render accounts to the Ministry that is financing it about its justification and efficacy, and we do that by delivering regular reports.

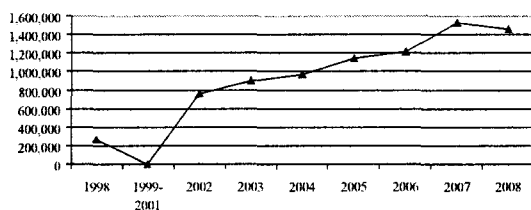


Figure 3: KoBSON funds per years

4 The System Evaluation

The rationalization of acquisition, as the main KoBSON aim, could not be achieved without the optimization of acquisition that would rely on corresponding data and techniques. Consortium carries out in cooperation with publishers of subscribed electronic services the regular activ-

ity of supervising the degree of the usage of the subscribed resources [10]. These data is publicly available. Some indicators are measured for the Republic as a whole, while the others are collected for the individual research institutions.

The number of downloaded documents increases, while the initial skepticism in the survival of the project is slowly receding. Also, users today download only the literature that they really need (Figure 4) [11]. Researchers in Serbia have in the last year (2007) downloaded more than million articles as full-text. One of the indicators of the degree of the usage and optimization is expressed by the fee for the individual article which is in Serbia 0.5 EUR. For some publishers, e.g. *Elsevier, Science Direct*, this fee is very low if compared with the fees elsewhere in the world, which corroborates the justification of investing in KoBSON.

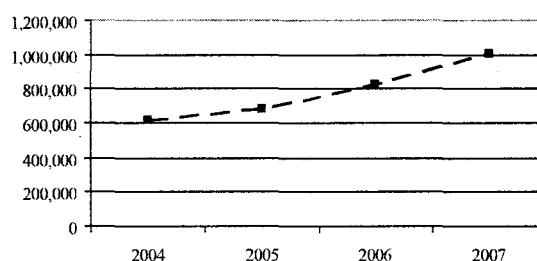


Figure 4. The number of downloaded articles in full-text per year

In order to make advantage of the united conduct in acquisition, in the year 2002 we have joined the international consortium eIFL (*Electronic Information for Libraries*) [12]. eIFL assembles countries in transition with aim to take care about the payment capabilities of the member states expresses by their national income when performing the united subscription. Through the membership in eIFL we were enabled to follow all the news in electronic scientific publishing, as well as to acquire the necessary routines in dealing with publishers in order to effectuate our rights. In addition, it is

very useful that the comparison of achieved development in the access to scientific literature in member states of eIFL is regularly performed. We have organized in Belgrade in November 2007 the annual assembly of eIFL which assembled 105 participators from 65 countries and which was given a very high mark.

5 The Promotion of domestic research

In the scope of its regular activities KoBSON registers all publications of domestic researchers that were published in *WoS* and presents meta-data about them to domestic scientific community on its portal. It is our plan for the next year to develop the digital archive of these publications in full-text. The number of these papers is growing steadily (Figure 5) and in year 2005 it was greater than 2000. Data presented in Figure 5 date from 8th January 2008, so it can be expected that the number of published papers in 2007 will be greater since some of them have not yet been input in the database *WoS*.

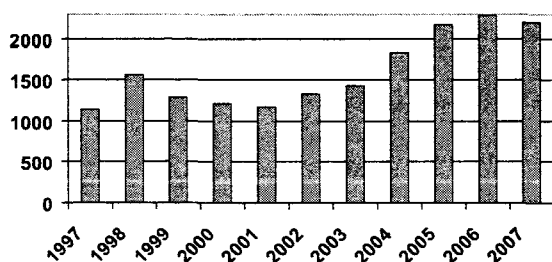


Figure 5. The number of papers published in Web of Science by researchers from Serbia

In 2005 we have started to assign the DOI (*Digital Object Identifier*) numbers to the articles from our most important scientific journals [13]. At present this service encompasses only 23 titles, but we hope that in the next year this number will significantly increase. All papers included in this system can be searched through Google Scholar [14]. Links to these papers are established from most of the major relevant databases, such as *Chemical Abstracts*, *Medline*, *SCOPUS*, *WoS*, etc.

6 Conclusions

Experience that we have with KoBSON to date is very favorable. Much more international journals, including the best ones, and for less money are subscribed in Serbia today than in the past. The successfulness of KoBSON is internationally recognized. In the first year of its existence KoBSON was placed on the 32nd place of eIFL list of 40 countries in regard to the number of downloaded articles and the price of a subscribed resource, which is used as an indicator of how successful the members are. This year we have been placed at the 4th position. At the same time we have been recognized as a member that has developed the strongest technical support to the information access and as such we have been engaged into the transfer of experience to the other countries in the region [15].

Another possibility for self-improvement we see in upgrading the monitoring of the degree of the usability. Till now we were mainly relying on the monitoring of accessing and downloading of material but we plan to start to use the data on so-called active or effective usage of subscribed articles, that is, the data on their impact (citation) in domestic scientific periodicals. In order to do this we need to connect our information with other information from domestic resources, most notably the information on citation.

We are aware that the further rationalization of the system is possible, but the question is whether this system can be maintained to offer support in the long run. An exquisite effort was done in order to establish the system that is giving results presented in this paper; the main issue is, however, how it will react on the inevitable changes. Therefore, "strategies for building the 21st century libraries and librarians must focus on the ability of librarians and libraries not just to adapt for change, but to prepare for it, facilitate it, and shape it" [16].

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