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Union is strenght. The System Bibliosan in the outline of the Italian biomedical research

THE FRAMEWORK

Bibliosan is the Italian national system that groups all the libraries of Biomedical research institutes. It started as a short-term project at the end of 2003 with funding of the Ministry of Health for two years and a total amount of € 200.000. The main purpose of the project was to evaluate the possibility of organizing a cooperative network amongst all the libraries of Institutes operating under the umbrella of the Ministry in order to boost access to scientific information and to share resources. Firstly, Forty-six partners were involved in the project, rapidly becoming fifty-six in the following years. In the first two years, two of the main goals of the project were rapidly achieved: a shared catalogue of all current and historical journals subscribed and a system for the exchange and delivery of documents. The achievement of the two aims was simplified by using already existing tools: the national serials catalogue called ACNP and NILDE (the Network Inter Library Document Exchange system) that is the most important national channel for document delivery. Both systems placed their resources, software and customized archives and interfaces at Bibliosan partners' disposal, allowing a rapid start up of the project.

The excellent results achieved had the effect of giving a new meaning to Bibliosan that in 2006 ceased to be a project and became a System with a rule, a lithe management committee and overall a regular annual funding by the Ministry of Health. Having a consolidated budget made it possible to start in 2007 the acquisition of shared resources, which was the main purpose that the System proposed. Since the beginning of the project, the final objective was to achieve a substantial reduction of paper journals subscribed and to find a better way for carrying out a coordinate acquisition policy for the e-journals. There was no doubt that the consortium was the only way to conduct a coordinated policy of purchases for a structure composed of more than fifty partners. It was also clear that forming a new consortium would have involved a major effort from its organization as well as of its management, while a partnership in a consortium that already existed was easier to achieve. Following these criteria, we decided to join the CILEA, one of the three most important Italian consortia. This choice entailed considerable advantages such as: lower purchase prices, management of contract negotiations, technical and legal assistance, storage in a mirror site of the data granted by some publishers. However, it was also decided that a limited part of the purchases were made directly if more convenient.

In 2007, Bibliosan received 1 million Euros in funding and the management committee decided to sign contracts through CILEA for the acquisition of some of the most important electronic resources in the biomedical field, such as: the Elsevier Journals complete collection, the BMJ Group Journals, the New England Journal of Medicine and the JAMA and the JAMA Archives Journals. Other products were also added: five databases by ProQuest (Medical Library, Science, Nursing, Psychology and Agriculture Journals, with a contract for three years), Refworks (the online research management, writing and collaboration tool) and the EBSCO platform AtoZ in order to manage the catalogue which includes all titles. These last resources were purchased directly from the producers. At the end of the process, more than 3,500 subscribed titles were available as well as Open Access for a total of about 7,000 journals. As regards to statistical data in the first year of functioning partners have downloaded more than half million

of articles while about 40,000 documents were provided through the document delivery service of the system.

The good results achieved in the first year made it possible to obtain in 2008 and 2009 a sharp increase in funding from the Ministry that is now two million Euros. Thanks to this doubling of the sum more resources were added to those already subscribed: the Blackwell STM and HSS Collections (about 800 titles), the 11 journals of American Society for Microbiology, the complete set of Sage Journals (119 titles at the moment), the 15 journals on subscription of BioMed Central, the full collection of Cell Press Journals, and the two databases of Cochrane Library and Journal Citation Reports. The full set of subscribed titles at the beginning of 2009 was about 5,000. The usage data relating to 2008 shows a deep increase in download activity: 1,511.355 articles were downloaded from subscribed journals with an average of more than 120,000 per month while the number of document supplied was about the same as the previous year. We can say that the System is now fully operational.

THE CONTRACTUAL MODELS

One of the most important aspects in managing BIBLIOSAN was to choose which types of contract to enter into. As we have seen most of the contracts have been signed through the CILEA Consortium and only some directly with the publishers. During the first year of running (2007), the main purpose was to obtain e-only contracts for all resources with the possibility of discharging all paper format journal subscriptions that were previously in progress by all the involved partners. All the contracts were signed respecting this condition, with the exception of the most expensive with Elsevier. We quickly realized that other equally important goals were:

1. To obtain long-term contracts in order to avoid unjustified increases in prices each year and to keep spending under control through scheduled increases.

Results: starting from 2008 we signed contracts of this type with Elsevier (5 years), Blackwell (3 years), BioMed Central (3 years), Cochrane Library (3 years), ASM (3 years) and Proquest Databases (3 years).

2. To get permission from as many publishers as possible to download data on the CILEA's archives and mirror site in order to have a security copy and an alternative access to the databases.

Results: this option was enclosed in the two most important contracts, i. e. Elsevier and Blackwell.

3. To research alternative forms of contracts and funds harvesting, considering the continuous increase of subscription prices and on the other hand the trend of flat funding granted by the Ministry.

Results: an agreement was signed with NPG, in which every BIBLIOSAN partner committed himself to maintain the subscriptions already activated and paid individually and with a payment of a small additional fee they acquired the rights to access the whole NPG e-journals catalogue (84 titles); in this case BIBLIOSAN is not directly in charge on its budget but played only the role of intermediary. At the same time, an individual contribution was established for every institute fixed at 4% at least on the general expenditures of research activities and through this new source of funds in 2008, we collected more than 400,000 Euros which were mainly used to cover the increase in costs of shared resources.

BENEFITS AND ISSUES

Certainly, the possibility of eliminating the paper subscriptions was one of the principal benefits achieved by the network. In addition to avoiding the unnecessary duplication of purchases and streamlining the subscription policy of each Institute. This allowed us to have a considerable value in return on investment. The total amount of economies due to the paperless contracts was in 2008 nearly 1,800.000 Euros while the overall cost of the system was 2 million Euros. This means that an additional expenditure of 200,000 Euros allows all the partners involved in the system to have access to more than 5,000 subscribed e-journals. If we consider that when the project started the majority of them had only a few hundreds e-titles in their catalogues it becomes apparent the great benefit in terms of supply for the researchers and for what concerns the relationship between total costs and the number of available resources. Furthermore, all resources are at researchers' disposal wherever they are outside of their place of work, thanks to the CILEA CLAS software that allows them to establish a bridge between their personal computers and the publishers' servers. The next step on this side is moving towards the use of Shibboleth standard with a federal recognition of the users. Finally, the enormous increase of articles downloaded in 2008 is a clear indicator of how the BIBLIOSAN System now plays a key role in the world of Italian biomedical research.

Of course, there are not only positive aspects but also many remaining challenges. Drilling down the data on downloads we found that the range in terms of cost /benefit analysis is from 0.31 Euros to 5.23 with a general average of all publishers of 2.94. This means that there are some resources that are underused and a continuous monitoring work is necessary in order to highlight situations of limited use and to act appropriately. The theme of permanent education of users is another aspect, which is crucial to the success of the whole system. A great deal has been done in this regard with many in-house courses aimed at researchers and physicians of several institutions, but we need to broaden the efforts in this way spreading the information as wide as possible and extending the number of potential users. Nevertheless, the fund harvesting represents the biggest problem. The constant increase of costs of publications and databases (mostly 40% in the last 4 years) compels to a never-ending rush for trying to maintain at least the already purchased resources. The way of long terms contracts with the introduction of an annual price cap is only a partial solution to this issue but it also needs other support tools such as the additional contribution by the individual institutions and the research of new contract models. The Elsevier contract in particular, for its relevance and financial commitment that it involves is one of the critical points. The duty of all partners is to keep buying paper journals (total cost of more than 2,400.000 Euros) is proving an intolerable burden on the budgets of the institutes: it forces one to make cuts in the subscriptions of other publishers and creates a vicious circle with detrimental effects on the publishing system as a whole. One of the main tasks for the near future will be to reconsider the agreement with Elsevier in the sense of a strong reduction in both the catalogue of available resources and consequently the economic engagement. The final goal must be to discharge the 'big deal' model in favor of tailored customer solutions based on a selection of titles in the catalogue and lower prices. This would at least partially balance the general state of the contracts, which are currently too heavy in the case of Elsevier.

ARTICLES DOWNLOADED AND SCIENTIFIC PRODUCTION: A RELATIONSHIP BETWEEN THE TWO?

The best indicator to assess the validity of a system like BIBLIOSAN would be to verify the existence of a relationship between articles downloaded and articles produced by researchers. More in depth: causes the increased availability of information a parallel increase in scientific output and, above all, is there an improvement in the quality of articles produced? There is no simple answer to these questions, which

involve an analysis of issues both quantitatively and qualitatively. Nevertheless, starting in 2008 we tried to face the problem. On the side of the quantitative analysis (that means to check the relationship between the number of articles downloaded and the number of articles published by the researchers) the most relevant problems were encountered : the non-COUNTER full compliance for statistical data of some publishers that leads to a difficult comparison of data; the impossibility of obtaining statistics on Open Access journals with the exception of BioMed Central; the decision of which kind of publications produced by researchers are taken into account (i.e. for example only peer reviewed or proceedings, reports, posters, etc.); the distortion of statistical data caused by the lapse of time between the downloads and the date of publication of articles produced by the researchers. Regarding the qualitative analysis (which corresponds to the question: has the large number of available resources led to a parallel increase of articles published on impacted journals and of the number of citations for the authors?), the problems that may arise are those typically associated with the use of impact factor: the need to clearly distinguish the different subject areas in order to obtain reliable values, the presence of self-citations, the distinction between positive and negative citations, etc.

In 2008, a study on twenty-one Institutes chosen as a sample was conducted taking as reference the total number of articles downloaded in 2007. Five different models have been developed and many reports have been produced. Respectively, the downloads are correlated with:

1. The number of articles published in 2007 on journals with IF (A)
2. The total value of IF (B)
3. The total value of IF standardized on the basis of Ministry of Health criteria (C)
4. The FTE (D)
5. The total number of beds (E)

The first three models show a significant relationship between scientific output (measured by the number of articles and IF) and use of electronic resources. This relationship becomes much less evident with regard to beds and is completely absent in the figure with FTE. From these results, we established that the resource availability has a significant effect on the production of the researchers, while the size of institutions have no influence on the use of scientific documentation.

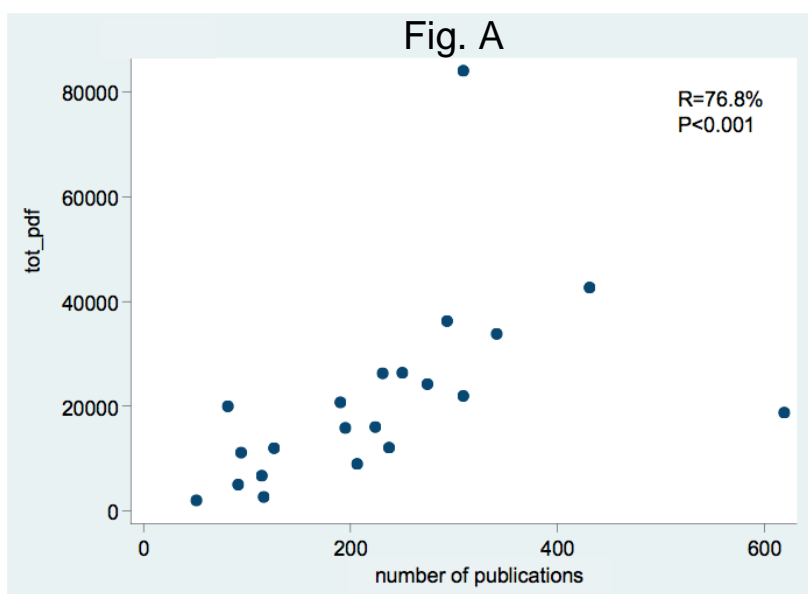


Fig. B

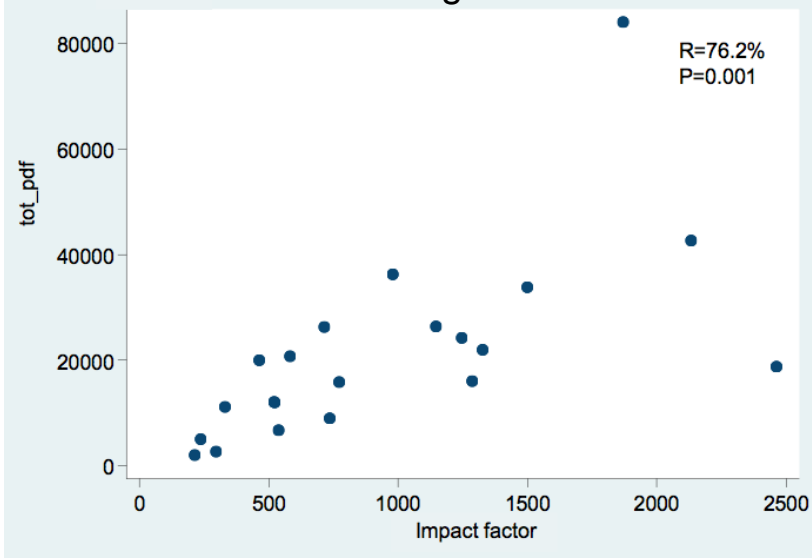


Fig. C

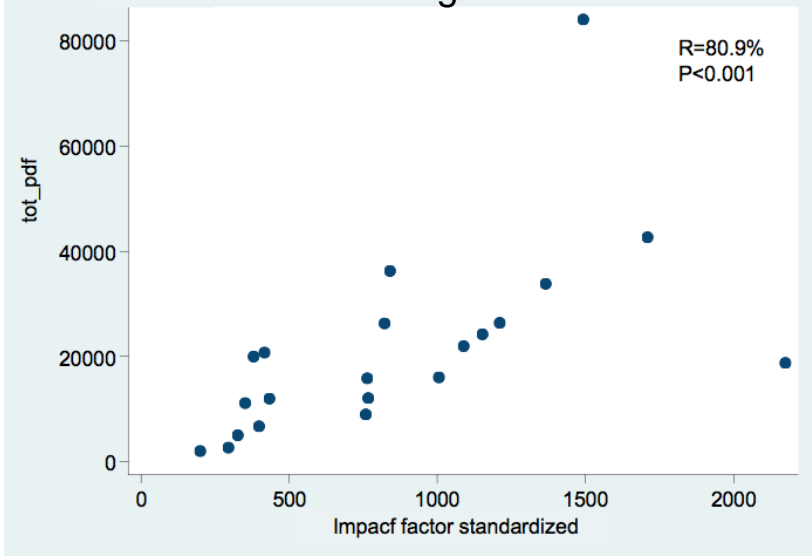


Fig. D

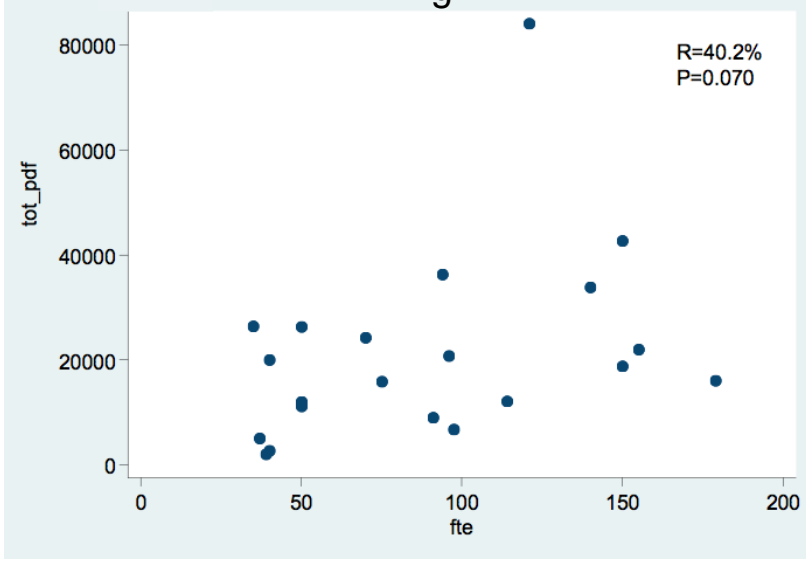


Fig. E

