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INFORMATION DIFFUSION - TECHNOLOGY AMPLIFYING FRONTIERS

DEVELOPMENT OF A BIBLIOGRAPHIC DATA BANK AT USP-BRASIL

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CONTENTS

Abstract

Information may be seen as strategic resource that can contribute meaningfully in the social and economic progress of a nation. The continuous growing of literature requires the optimization of efforts by libraries to supply informational needs of users. The University of São Paulo (Brazil) that is developing excellent holdings and an integrated system (SIBI) that enables informational resources management, has been introducing new technologies in this field, trying to enhance and enlarge bibliographic information availability through access on-line (DEDALUS) and in CD-ROM.

1. Introduction

Information - a word largely known and discussed - enables to obtain resources, to enlarge cultural and technological frontiers. It may be seen as strategic resource that can contribute meaningfully to the social and economic progress of a nation. Information transfer can be processed through several physical supports in order to reach knowledge.

For that purpose, adequate means are necessary to organize, store, manage, disseminate and enable the right to information access to the community, in order to take part in the process of innovation and generation of new ideas in the society as a whole. Through literature survey, information is seen nowadays as the quaternary section of economy and plays an important role in planning and administration of countries.

In the last years, in the United States, Europe and Japan, the explosion of available information caused the creation of several bibliographic and referral data banks. Is Latin America, in despite of some efforts in these few years, the development of data bases and networks is still at the beginning. However, even facing serious economic and social problems, some countries have showed some signs of renewal

and modernization, with reflects in the educational and cultural activities, as well as in the libraries.

In Brazil, little by little a national information policy has been defined and the development of data banks is seen mainly in the academic and special libraries, as an effort to optimize available bibliographic resources to the users. In general, academic and college libraries have the most important holdings on science and technology, and can be considered as agents in this information transfer.

In this context, the development of bibliographic data bank of University of São Paulo can be considered as a contribution to data integration, interaction among institutions and enhancement of availabily of informatim/document to the users.

2. Settlement of Bibliographic Data Bank - Experiment at the University of São Paulo

Academic library development in third world countries, aiming to meet the actual needs of teaching and research activities and also extension services to community, is a challenge to librarians.

The continuous growth of literature produced in developed countries and the difficulties to access this information require many efforts to supply the main holdings accordingly.

São Paulo State, regionally considered as a quaternary society which produces knowledge based on knowledge, has three state universities : University of São Paulo (USP), State University of Campinas (UNICAMP) and São Paulo State University (UNESP). The first one was founded in 1934 and its libraries keep the largest holdings. The other two are more recent and all of them are playing an important role at national context.

During almost 50 years, the libraries at USP were housed and managed separately. However, finantial difficulties and the need of obtaining common patterns and procedures led to the creation of Integrated Library System (SIBi), in 1982, which

nowadays is composed of 36 Libraries and one Technical Department (DT/SIBi) The aims of the system are, consequently, to define common patterns and procedures, to planify holdings using cooperative acquisition, to automate services and to participate in internal and external information programs.

Today the system is already settled and some enhancement in the availability of information has already been felt, mainly through the use of new technologies.
During all these years, human and material resources to meet either the organization and cooperative projects have been pursued. Table I and Figure 1 shows some basic information about the efforts to provide services to the community.

Library holdings have been updated through special programs sponsored mainly by University budgets, although finantial restraints have been present in all fields. Table II presents data concerning last 5 years. Whether comparing USP holdings with those of American and Canadian universities, USP is placed at 17th and 18th position.

(Figura 1)

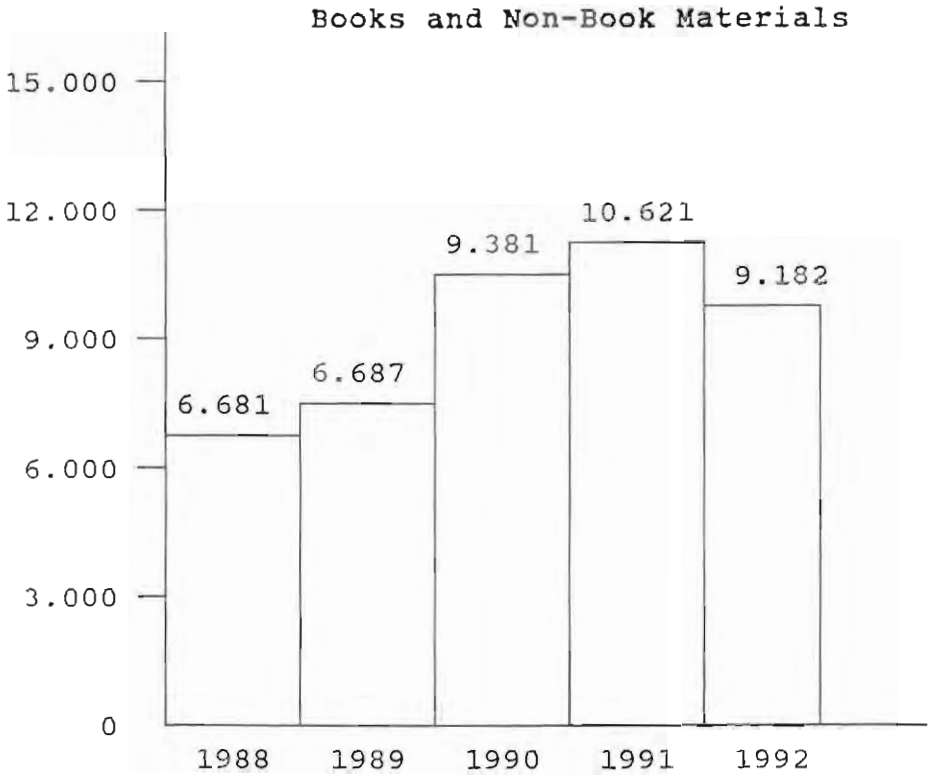
TABLE I - BASIC INFORMATION OF THE UNIVERSITY OF SÃO PAULO RELATED TO LIBRARY SERVICES

Academic Community (1991)		Number
Teaching staff		5,409
Under Graduate students		36,203
Graduate students		15,553
	total	57,145

Bibliographic Production		
Theses (1934-1992)		27,855
Books, papers, others (1985-1992)		88,655
	total	116,510

Library Holdings		
Books		1,229,194 vol.
Serials		2,968,599 vol.
Theses		103,224 vol.
Multimedia		231,268 un.
Others		269,095 vol.
	total	4,801,388 vol.

Reference Services		
. Users	potential	107,322
	registered	46,736
. Circulation (1991)		3.491,459
. Document delivery (COMUT-1991)		345,226
. Data bases access		
	CD ROM	40 titles
	on-line	several (national and international databases)



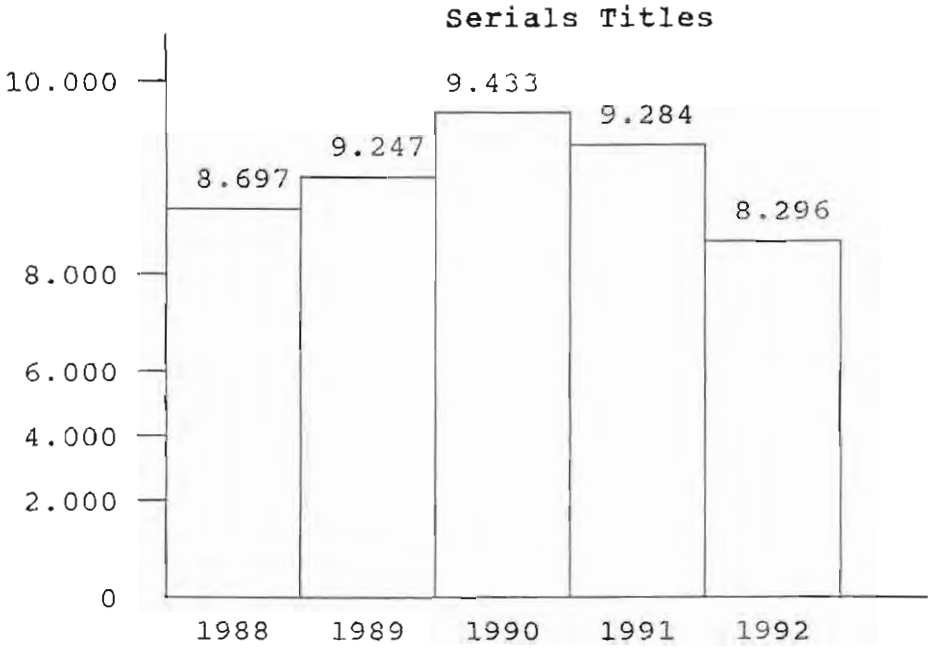


TABLE II: ACQUISITION OF PUBLICATIONS THROUGH UNIVERSITY BUDGET (1988-1992).

Automation procedures have begun in order to enable storage and retrieval of information through the use of new technologies. DEDALUS, the Bibliographic Data Bank, was created in order to : 1) assemble all bibliografic information without changing holdings descentralization; 2) update holdings records frequently by the libraries; 3) provide bibliographic control of information produced at USP; 4) enhance possibilities of information retrieval; 5) offer on-line access in libraries; 6) develop programs and resources of the bank; 7) obtain several products derived from information storage.

In 1989, a survey was carried out in order to evoluate this first period of work, as well as to propose a software expansion to obtain either the common bibliographic format and the integration to library services (acquisition, circulation, dissemination, etc.)

TABLE III - STEPS OF AUTOMATION PROJECT FOR LIBRARY SERVICES

Step	Activities	Situation
1	. data storage (theses and bibliographic production, serials and monographs)	. settled
	. network installation (36 libraries)	. settled
2	. multimedia storage	. under way
	. authority data base	. under way
	. search implementation	. under way
	. communication system	. under way
	. national and international connection	. under way
3	. circulation system	. project development in 1993
4	. acquisition system	. 1994
	. common bibliographic format	. 1994

This data bank is one of the several efforts of the University for global automation, and so its place is indicated as follows:

Figure (2)

This network links all University campi, spread out all over State of São Paulo, and participates in the Brazilian Research Network (Fig. 3).

Figure (3)

In 1991, DEDALUS began operating on-line for storage and retrieval of information. In 1993 it is planned to integrate Internet network, as soon as communication channels are ready for that.

Today, DEDALUS is available in all libraries through on-line access, as well as in University departments, USP bookstores and even at home, for USP Faculty. Presently some tests are being developed to installation in external institutions.

The bibliographic network enables to enlarge search procedures and also to descentralize information storage, in such a way that efforts to keep data updated can be strongly successful. Figure 4 shows the participation of all libraries in this process, showing an example of benefits from technology to optimize the use of available imformational resources.

Figure (4)

Besides storage and retrieval, the bank also enables exceptional conditions of data exchange with other projects under way . Figure 5 shows several kinds of products offered.

Figure (5)

As for cooperative programs, data stored in the data bank are sent to IBICT (Instituto Brasileiro de Informação em

Ciência e Tecnologia), for the National Union Catalog of Serials, available on-line, in microforms and planned to be part of a CD ROM in 1993 ; another project aims to organize a CD ROM containing data from monographs and theses already stored in data banks by the three State Universities of São Paulo, containing around 2,300,000 volumes. Users from the 76 libraries that are part of these library systems, and housed separately in 21 cities, will certainly benefit mostly users of this product. The first pilot edition will be available after June 1993.

Figure (6)

CD ROM technology was considered adequate for immediate use in this project. The access on-line for the moment would face some difficulties in telecommunications in enough number of equipments and higher costs of operation.

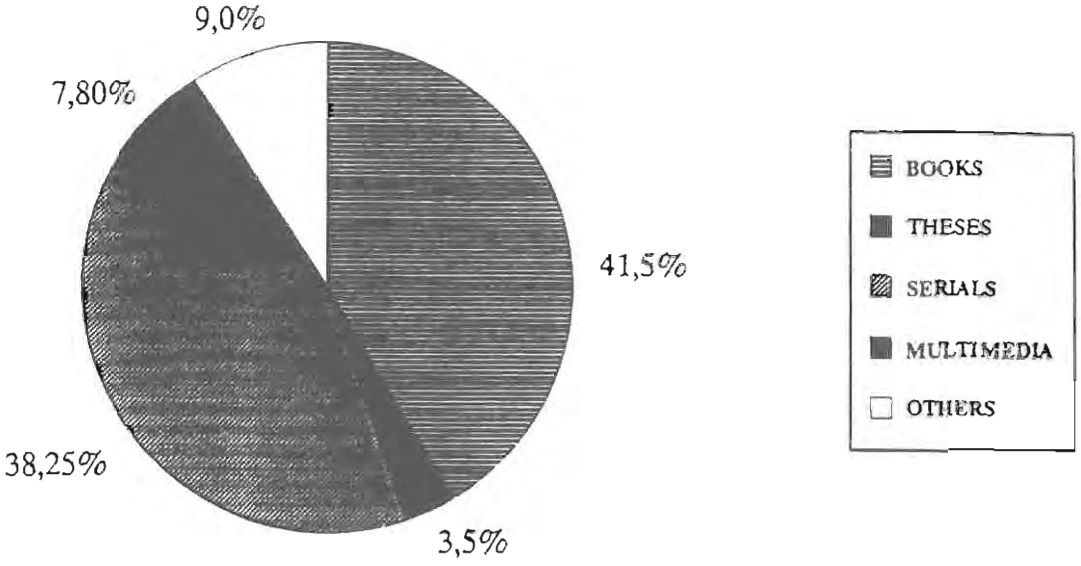
On the other hand, local networks within the University of São Paulo are also being developed based on data stored in DEDALUS. There is also a project to automate the Regional Union Catalog of Books which is housed at University of São Paulo and is formed by information from around 100 libraries from the State of São Paulo, including those from all State Universities. Today around 5 million records are available in cards. The automation will descentralize services and enable faster update of information.

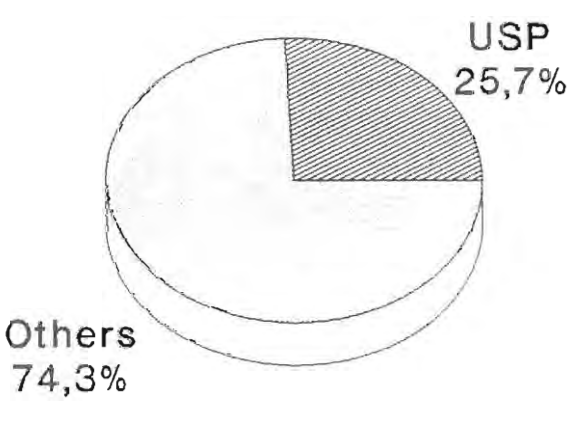
It can be said that available technology brought a meaningful enlargement to the area of bibliographic information either for the management or the access channels by the community.

These resources, together with other factores, enable the information professional to act in the planning and optimization of available bibliographic tools in the country, such as to develop a know-how for future implementations for local or external projects of scientific and technological information.

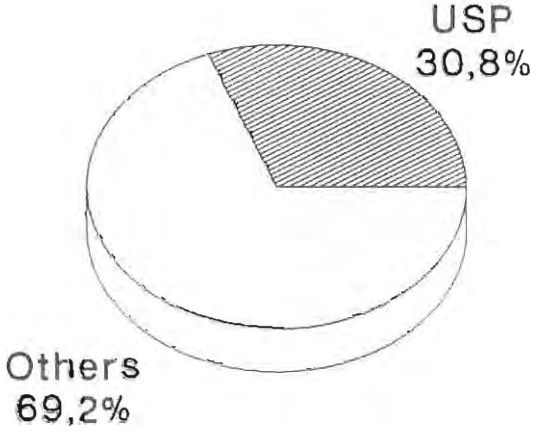
F I G U R E S

Figure 1: Library Holdings Distribution and Document Delivery Service (COMUT)





1988



1989

Holdings Distribution shows a great part for books and serials. Document delivery services (COMUT), aimed mainly to supply serials copies, show that USP services mean 25 - 30% from national participation in COMUT (Programa de Comutação Bibliográfica).

USP NETWORK

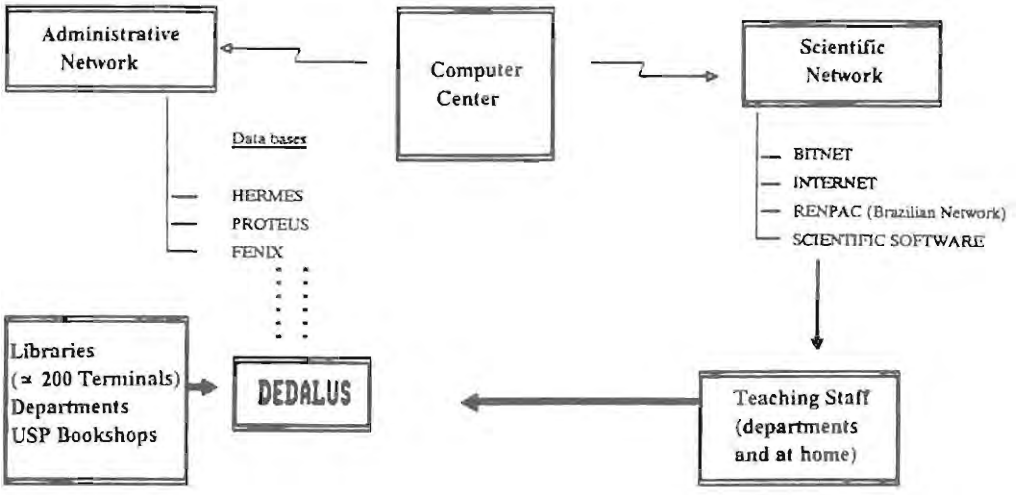


Figure 2: USP Network

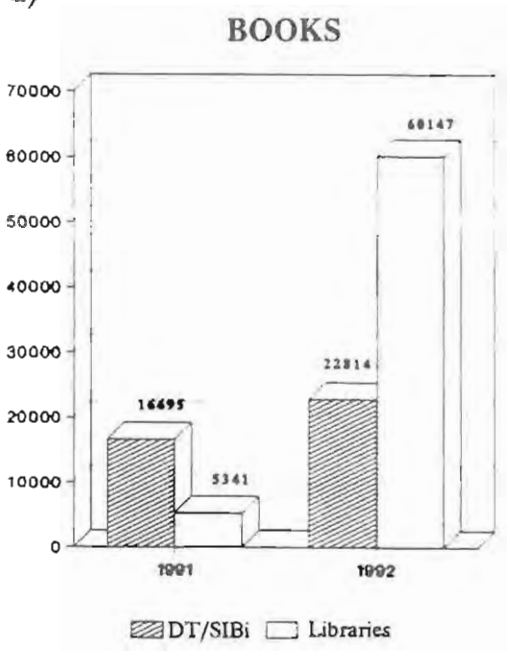
BRAZILIAN RESEARCH NETWORK (RNP)

. USP Network

. Geographic distribution of Libraries' São Paulo University - USP
. São Paulo (Capital) - 78%
. Other Cities - 22%

Figure 3: Brazilian Research Network and USP Network.

a)



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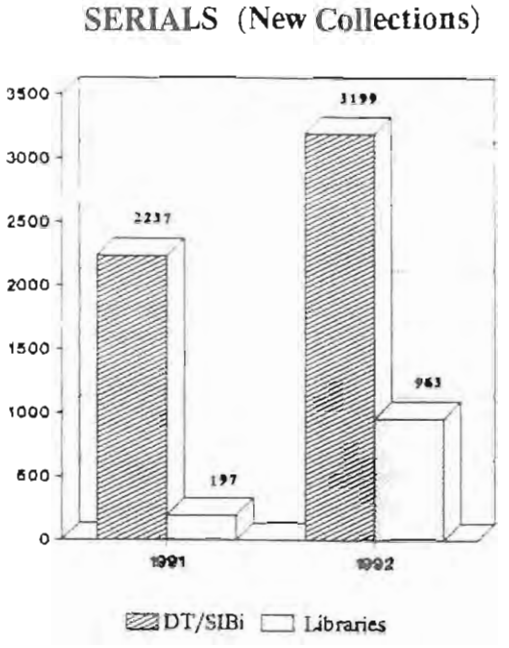

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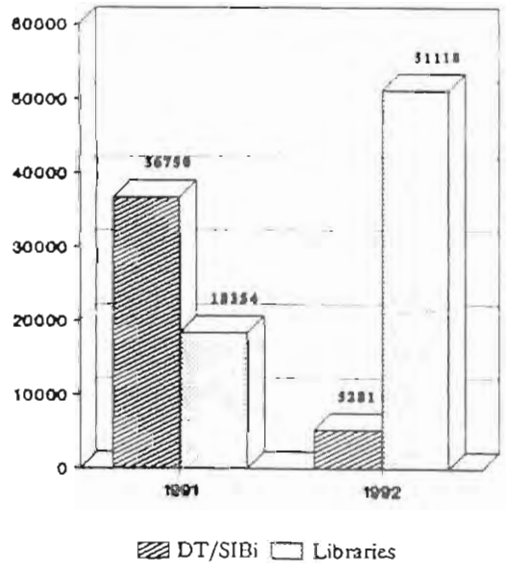

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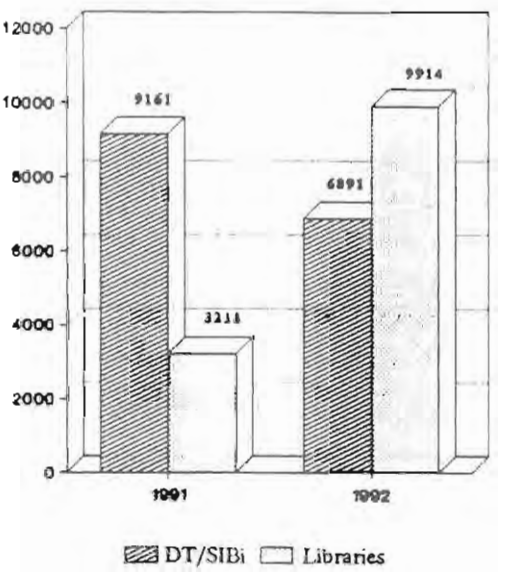

Total bibliographic data storage:

. monograph s = 818,233 volumes
. serials = 65,501 collections
. bibliographic production = 116,510 volumes

Figure 4: DEDALUS' decentralized storage of data, period 1991 and 1992.

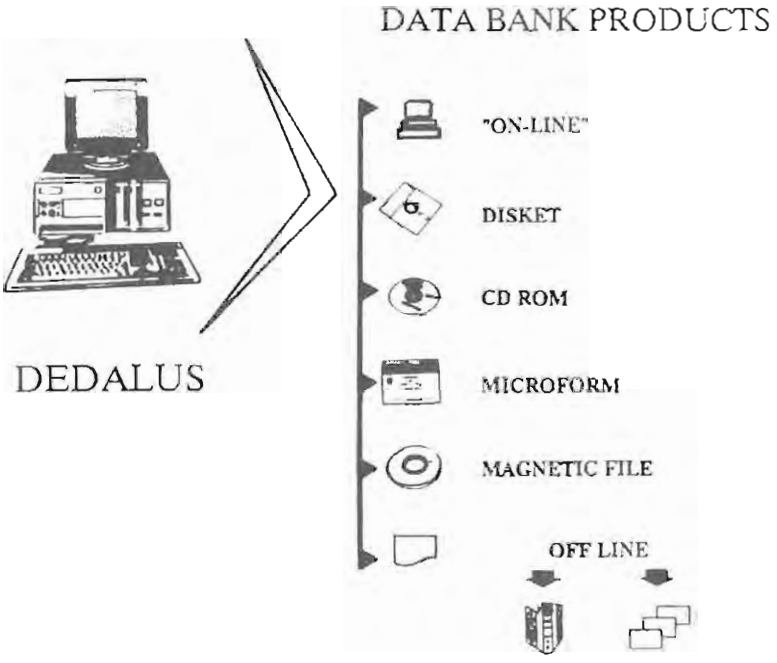

Figure 5: DEDALUS Products

Figure 6: CD ROM Project: geographic localization of the 76 libraries.

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