

RESEARCH ON THE COLLECTION AND DISTRIBUTION OF FOREIGN SCI-TECH JOURNALS IN CHINA *

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Abstract: In broad outline and with rich data, this article introduces the principle, category, quantity and other relevant information about China's importing and collecting the foreign Sci-Tech journals. It discusses the major achievement, basic experiences, the existing problems in recent years in the cooperation and coordination among China's major libraries and information institutes as well as their efforts in distribution of document resources, while they collect the foreign Sci-Tech journals. The article also provides specific and positive proposals particularly aimed at the problems on how to adapt to the new situation of deepening reform in Sci-Tech information business and on how to improve the nation-wide cooperative purchasing, the organizational administration of coordinated collection of foreign Sci-Tech journals, the application of new technology and other related work.

Documents are the records of people's social practices, productive practices and Sci-Tech activities. It is an important channel of information exchange. The Sci-Tech documents generated in certain historic periods faithfully reflect the level and tendency of science and technology in that historic period and under that social condition. The document is a kind of intellectual resource possessing special information value and functionality. Therefore, it is the obligation and responsibility of our information workers to do a good job in collecting Sci-Tech journals and give full play to the information function of journals. Considering my

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thirty years' experience in acquisition of foreign documents, I hereby express some advice on the collection and coordination of foreign journals in China.

I. The Acquisition of Foreign Sci-Tech Journals in China

Sci-Tech journals, a tool of issuing Sci-Tech achievements, transmitting scientific information, exchanging academic views and accumulating academic data, play a very important role among all the Sci-Tech documents. Statistic shows that there are 140, 000 species of journals all over the world, about 80 percent of which are published in English.

China is a developing country. In order to better explore the information resources, serve the Four A's and accelerate the development of science and technology, the most economical and rapid means is to import, collect and use the foreign Sci-Tech journals and other documents in an organizational way. It will help the technical staff to access the global information quickly, and surpass advanced international levels.

With the arrival of the "Information Age", Sci-Tech journals quickly increased. According to the well-known "Ulrich's International Periodicals Directory", the number of journals recorded the 17th edition has increased by 50 percent over that of in the 13th edition. The "International Scientific Periodicals Directory" shows that the number of bio-physical journals has rapidly increased from 1 (1940) to 78 (1980) The growth rate per year is about 13 percent. The sharp increase of journals will inevitably lead to the mix of good quality and bad quality. Moreover, with the more intersection and duplication, as well as the increase in price, how to choose the foreign Sci-Tech journals has become a critical problem . Most institutes importing foreign Sci-Tech journals are located in Beijing and Shanghai, such as The Institute of Sci-Tech Information of China (ISTIC), China Defense Science and Technology Information Center (CDSTIC), Library of Academia Sinica (LAS), The Information institute of Ministry of Geology and Minerals (IIMG), Library of Chinese Academy of Medicine (LCAM), The Information Institute of Ministry of Electronics and Mechanics (IIMEM) and Document Information Center of Agriculture Ministry (DICAM). The comparison between the 5706 titles they subscribed in 1991 and the 12286 titles in "Directory of Foreign Newspapers and Periodicals" is shown in Table 1.

Table 1: Subscription of 7 Institutes with the Number of Titles in "Directory of Foreign Newspapers and Periodicals" for comparison

Subject	"Directory"	Subscription (1991)	Rate%							
	Titles	CDSTC	ISTIC	IIMGM	LCAM	DICAM	IIMEM	LAS	Totals	
Military	349	122	/	/	/	/	/	/	122	35
Generalities of Natural Science	356	18	7	18	23	7	2	50	155	43.5
Mathematics	402	2	8	/	/	/	/	62	72	17.9
Physics	500	17	22	3	3	/	1	112	158	31.4
Chemistry	628	/	14	2	19	1	/	80	116	18.3
Astronomy	103	/	/	/	/	/	/	18	18	17.5
Geology	930	1	2	402	/	6	/	60	471	50.6
Biology	1402	/	/	59	235	248	/	239	781	55.7
Medicine	3377	/	/	/	1231	17	/	14	1262	37.4
Agriculture	1447	/	/	1	6	807	6	20	840	58.1
Generalities of Technology	634	33	264	1	40	/	108	82	528	33.2
Electronics	1795	102	518	/	2	/	87	245	954	53.1
Mechanics	363	/	86	/	/	/	132	11	229	63
Totals	12286	295	951	486	1559	1086	336	993	5706	46.4

Not only some large-scale information institutes, but also the majority of colleges and universities are located in Beijing. Each college or university library has its own character, but all of them collect foreign Sci-Tech journals. The holdings of the Beijing University Library and Tsinghua University Library take the first places compared with libraries of other universities and institutes of technology (see Table 2 and 3)

Table 2: The Top Three among 32 Univ. in Foreign Journal Holdings

Unit	Number (Title)	Order
Library of Beijing University	29818	1
Library of Nanjing University	25752	2
Library of Fudan University	22019	3

Table 3: The Top Three among 44 Institutes of Technology in Foreign Journal Holdings

Unit	Number (Title)	Order
Library of Tsinghua University	15863	1
Library of Zhejiang University	13270	2
Library of Shanghai Jiaotong University	11062	3

Because of the lack of macrocontrol and coordination in administration as well as the change of foreign exchange rate since 1985, all the libraries and information institutions have faced widespread fund shortage, which led to the decrease of subscriptions. Take the library system in Academia Sinica as an example, the subscription reduced by 50 percent from 1985 to 1990. (see Table 4)

Table 4: Subscription of Information System of Academic Sinica (1985-1990)

Year	1985	1986	1987	1988	1989	1990
Number (Title)	15698	15787	14513	11757	10195	8765

Only in five years, the subscription decreased from 15, 698 to 8, 765. This case not only caused the discontinuance of journals, but also badly affected the services for readers.

The decrease of the Sci-Tech journal subscription inevitably causes the decrease of the circulation rate. In most libraries and information institutes, the circulation

rates are rather low because of the limitation of the readers' borrowing habits, the imperfection of interlibrary loan rules, the inefficient reporting channel of catalogue systems and the low level of information network services. (see Table 5)

Table 5: Journal Circulation in the Library of Academia Sinica(1993-)

Subject	Mathematics	Physics	Chemistry	Technology	Electronics	Biology & Zoology	Chemical Eng.	Geology	Generalities
Circulation	187	165	209	149	218	278 132	89	94	88
Circulation Rate(%)	32.52	38.82	41.80	30.10	20.90	20.50	12.28	8.17	9.26

In short, it is necessary for major university libraries and special libraries to carry out the researches on collection and rational distribution of documents.

II. The Review of Cooperative Purchasing of Foreign Sci-Tech Journals in China

1. It is of historical importance to strengthen the cooperative purchasing of journals.

Considering the present situation of economy and document resources in the world, the increase of acquisition fee in any country can not be in direct ratio to that of the documents. How to strengthen the macrocontrol and cooperative purchasing of documents, especially of foreign Sci-Tech journals, and how to implement the rational distribution have become difficult problems for any country, whether it is rich or poor.

In the United States, the "National Union Catalogue" was compiled in 1902. The "Union Catalogue of Periodicals in the United States and Canadian Libraries"(1st ed.) was published in 1927. And in 1945, the American Association of Science Research Libraries put forward the "Farmington Plan". In 1959, the United States began to carry out a "Cooperative Acquisition Plan in Latin America".

Meanwhile, other countries put forward similar national cooperative acquisition plans as well. For example, Denmark, Norway, Sweden and Finland drafted the transnational "Scandinavian Plan" in North Europe. The implementation of this plan saved the acquisition fees, avoided duplicating the expensive but rarely used documents, and assured the provision of important information of every subject.

Different in background, all these plans and coordinating measures proved that the coordination and cooperation of documents are the trends. Therefore, we can

use these plans and projects as references for the document resource coordination, distribution and sharing in China.

2. Review of the foreign Sci-Tech journal acquisition in China

The foreign Sci-Tech journal is one of the major information resources, as well as the important channel to foreign Sci-Tech and economic information. It is also the basis of the Sci-Tech information research in China. Consequently, the journal takes a large proportion in all kinds of documents in every library and information institute, and this proportion is still increasing. All 38 major information institutes in Shanghai subscribed foreign journals, and the subscription rate took the highest percentage of all acquisition fees. (see Table 6)

Table 6: Foreign Document Types of 38 Information Institutes in Shanghai ordered from 1985 to 1989

Document Type	Journal	Book	proc.	Standard	G.P.	Dissertation	Sample	Patent	Tech. Report
Rate(%)	100	97.3	73.6	41.5	37.4	34.1	34.1	31.5	31.5

Analyzing the distribution of funds on books and journals in some special libraries in Shanghai, we can see that the highest percentage of journals arrived at 93 and the lowest one was still above 50. (see Table 7)

Table 7: The Funds Ratio Between Books and Journals of 9 Information Institutes in Shanghai (1989)

Unit	Funds Ratio		Unit	Funds Ratio	
	Book	Journal		Book	Journal
A	20	80	F	25	75
B	20	80	G	15	85
C	34.3	65.7	H	20	80
D	7	93	I	20	80
E	30	70			

- A: The Information Institute of Baoshan Steel Factory
- B: The Information Institute of Shanghai Metallurgy Bureau
- C: The Information Institute of Shanghai Branch of Chinese Medical Society
- D: The Information Institute of Shanghai Medicine Bureau
- E: The Information Institute of Shanghai Aeronautics Bureau
- F: The Information Institute of Shanghai Instrument Bureau
- G: The Sci-Tech Information Institute of Medicine
- H: The Library of Shanghai Medical Industry Institute
- I: The Library of Shanghai Agriculture Institute

In some developed countries we also have done investigation into the scientists' needs for journals and theses. In the United States, 68 percent of scientists' information needs are satisfied by journals. The investigation directed by the Library of Russian Academy of Science showed that the utilization rate of journals was 84 percent.

In brief, how to scientifically collect journals, share and cooperate to gain the greatest information profits from limited funds as well as to solve the problems of document resource distribution, especially of the cooperative purchasing and collection of journals, have become focuses in the field of library and information science.

Early in 1956, the State Council decided to set up the Book Group under the Science Plan Committee. This group consists of library experts from the Ministry of Culture, the Ministry of High Education, the Ministry of Hygiene, Academia Sinica and National Library. They are in charge of the whole plan of the national book service for scientific researches. The "National Book Coordination Plan" pronounced on Sept. 6, 1957 was adopted at the 57th conference of the State Council. The main contents are: (a) to set up a central library committee. (b) to compile a national union catalogue of books and journals.

Since the crush of the Gang of Four, national economy and technology have greatly recovered and developed, and the information business has made some advancement correspondingly. To vitalize the economy and advance the technology, our country has invested lots of foreign exchange in all kinds of documents. The amount reached its peak in 1985. The statistic show that the foreign Sci-Tech journals introduced in that year set a record of 26, 450 titles and 295, 000 copies. (see Table 8)

Table 8: Statistics of Foreign Sci-Tech Journals in China (1954-1990)

Year	1954	1957	1961	1971	1980	1985	1990
Statistics (Title)	2600	10000	14654	30000	23200	26450	23000
(Copy)	16300	220000	135820	60000	190000	295000	186000

Nevertheless, the lack of a unified plan, as well as the imperfection of the ideology and leadership system resulted in repeating and missing. Therefore, we must find a new way not only to satisfy the readers' needs but also to save money. Just under this special condition, the national document resource distribution is openly placed on the agenda of leaders and information workers. On Oct. 22, 1987, the "Book and Information Service Coordination Committee of Department" was set up. It consisted of experts from the National Committee of Science and Technology, the Ministry of Culture, the National Ministry of Education, Academic Sinica, the China Defense Sci-Tech Information Center, the Chinese Academy of Social Sciences, the Ministry of Posts and Telecommunications, the Ministry of Electronic Industry, the National Bureau of Archive, the National Bureau of Standard and the National Bureau of Patents. The primary tasks of the committee were to give advice on developing plans and policies of information services to relevant government departments; to study and coordinate the exploitation and use of national document resources as well as the computer database and network construction of national information system. They hoped to solve the vital problems on a high level.

Under the leadership of the committee, "Collection, Exploitation and Use of Document Resources Special Group" was set up in March 1988. In October, the group chaired the first meeting on the investigation of national document resources in Beijing, discussed and passed the "National Document Resource Investigation Plan". In November, the Information Bureau of the National Committee of Science and Technology sponsored a meeting on the document service of the national Sci-Tech information system. It studied the principles and methods of rational distribution as well as the use of Sci-Tech documents. It also drew up the "Sci-Tech Document Interlibrary Loan Method", and "Provision, Management and Reproduction Method of Microform Documents", etc. Under these policies, some provinces, cities and autonomous regions established their own coordinating organizations one after another. Each ministry put forward its research project on the distribution of document resources. For example, the China Defense Sci-Tech Information Center, the Ministry of Geology and

Minerals and Academia Sinica sponsored some meetings to study the related problems. It is necessary to combine microstudy and macrostudy, theory and practice. Research results, working plans and actual effects have proved that cooperative purchasing and distribution of foreign Sci-Tech journals are of great significance and have boundless prospects.

III. First Achievements of Cooperative Purchasing of Foreign Sci-Tech Journals in China

With the deepening of the technical and economic system reform as well as the implementation of information policy, many ministries and regions widely carried out cooperative purchasing of foreign Sci-Tech journals, and achieved some positive results.

1. Confirmed the sense of cooperation and coordination, obtained the achievement in fundamental theories and methods

To improve the document coordination, each ministry, region and library made deep investigation and research on the significance, principles, methods and policies of coordination and distribution, and unanimously agreed that the cooperation and coordination of the documents are an important part of the reform. The coordination of national documents directly affected the collection, arrangement, storage and development of the document resources in a country, reflecting the level of the informatization of the society and the socialization of the information. Therefore, based on the researches, libraries must work out the principles, measures and plans of coordination corresponding to their own conditions. All institutes took different ways such as combining theory and practice, statistics and users' appraisals, quantitative and qualitative analysis, doing on-the-spot investigations. So the conclusions they got to are logical and supported by facts. Not only can they be widely spread, but also put into practice. All plans laid down according to these conclusions have fairly strong operability.

2. Found out the library holdings, gained relatively great social and economic profits

Through the investigation of foreign Sci-Tech journals, each province and ministry had found out the document holdings, and done some distribution. For example, National Library and the Institute of Sci-Tech Information of China made the entire investigation to their holdings; China Defense Science and Technology Information Center and information system of Academia Sinica adopted the distributing measures to make coordinated subscription and meet the users' needs. These measures also help them make their relations smoothly,

understand the emphasis, titles, quality of their holding, avoid the reimport, add some new titles, strengthen the provision and sharing the document resources, and raise the utilization rate of the Sci-Tech documents and the entire efficiency of document resource supporting system.

The Ministry of Geology and Minerals made some investigation and research on national geological original foreign journals, compiled and published the "Subscription Union Catalogue of Original Newspapers and Periodicals Abroad and in Hongkong, Taiwan among Libraries in the Ministry of Geology and Minerals (1989-1990)". In 1989, they subscribed 221 titles less, that saved RMB 144, 000.00. The subscription of foreign journals decreased 221 titles again in 1990, that saved RMB 106, 770.00. And 89 new titles were added.

The document and information system of the Academia Sinica combined both qualitative and quantitative analysis to investigate its whole document system, made quantitative statistics, checked the document coverage ratio, made the citation analysis and investigation of the information institute users. All these efforts led to the accomplishment of the "Document Resource Rational Distribution and Sharing Plan of Academia Sinica " and other 19 research reports on special topics.

The "Document Resource Distribution and Sharing Plan of Academic Sinica" was listed in the 8th Five-year Plan of the document and information system of Academia Sinica. And other four information centers decreased their subscription by 2, 123 titles and added 4, 048 new species, that saved about RMB 1, 550, 000.00.

According to the 8th Five-year Plan, the Ministry of Agriculture, the Ministry of Textile Industry, the Ministry of Railroad and over 20 provinces and cities had accomplished the researches on distribution of document resources.

3. Formulated a lot of practical coordinating plans and projects

Through the investigation and research, each system and region have formulated distribution plans based on its own local situation. For example, The Ministry of Geology and Minerals established the document coordinating network; The information system of the China Defense Science and Technology formulated the distribution plan of Sci-Tech documents on national security and drafted the project of Sci-Tech document construction and distribution in the year 2000. The Academia Sinica drew up a "Distribution and Sharing Plan of Document Resource in Academia Sinica", which has explicitly decided on the significance, principles, management, division, cooperation, process, storage, utilization and support conditions of the document resource rational distribution and sharing.

Since these plans and projects are based on large scale investigation and research, the results are relatively typical and universal, exerted great influence on the national distribution of document resources.

4. Promoted the formulation of some important regulations and policies of document resource sharing

Early in 1986, the Chinese Library Association sponsored a "Document Resource Distribution Symposium" at Nanning for document resource sharing. At that meeting, many people underlined the problems of drafting relevant regulations and policies. In November of 1988, the Information Bureau of the National Committee of Science and Technology held the "National Sci-Tech Information System Document Workshop" at Chengdu, discussed the problems on Sci-Tech document distribution and utilization. The advice on "Adjusting and Strengthening Sci-Tech Document Work in National Sci-Tech Information System" issued on that meeting suggested that the document distribution be divided into related three different levels national, special ministry and regional. Some advice on funds was put forward on the national Sci-Tech information services meeting in 1992. Many institutes have drawn up some regulations in accordance with the spirit of the national meeting.

5. Compiled some reference books to support the document resource sharing, drafted some relevant methods to promote the document and information services

The holdings, utilization and character of each institute are made clear after the study of the national distribution of document resource and the complementation of relevant coordinating plans. Many union catalogues of books and journals, as well as methods of exchange, interlibrary loan and request duplication were worked out during the coordination and distribution, and became the important basis of the national distribution and sharing of document resources. Such as the "Document Resource Guidebook of Academia Sinica" of 1991, the "National subscription Union Catalogue of the Original Newspapers and Periodicals Abroad and in Hongkong, Taiwan on Geology and Minerals" successively compiled from 1989, the "Subscription Union Catalogue of the Serials on the China Defense Science and Technology" reflecting the collections of the Ministry of Defense since 1987, the "Concise catalogue of Sci-Tech Periodicals in Jilin Province", and the "Interlibrary loan methods of Sci-Tech Document in Shanxi Province (draft)", etc.

The above-listed books reflecting the collections of foreign Sci-Tech document in a ministry, a region or a profession as well as some other "plan", "handbook",

"regulation" and "method" relevant to services appearing during the resource distribution research have all directly promoted the services of document and information. They have had great effect on the increase of the utilization rate of Sci-Tech journals and promoted the implementation of information research achievement.

IV. Basic Experiences and Existing Problems of Cooperative Purchasing and Distribution of Foreign Sci-Tech Journals in China

1. Basic experiences

The rational distribution of document resources is a systematic project with extensive business scope and a lot of theories and practical problems. Considering its own situation and character, each ministry and region conducted lots of investigation, research and practical work, adopted a series of effective measures. The basic experiences are:

- (1) using the experience of selected units to promote work in the entire area or combining the experience of selected units and the work in the entire area

One of the basic methods is to use the experience of selected units to promote work in the entire area. For example, the information system of the Defense Science and Technology chose Beijing as a typical case to carry out the document distribution researches, then selected the distribution of the relevant central ministry information institutes as the emphasis and considered the regular document resources as the breakthrough to advance its work. In the beginning, journals are selected as the typical case. And the coordination began with the expensive foreign journals. At last, the whole national document distribution was carried out. Other ministries carried out coordination combining the experience of selected units and the work in the entire area. For instance, the information and document system of Academia Sinica is a united information system. All tasks in this system are closely linked. It has already done some investigation and research on document resources. The information centers and special libraries with abundant document resources are considered as models, and all the 143 information institutes as the entire area. They combined these two parts with each other, launched the coordination simultaneously, and made great progress.

- (2) equality and mutual benefits, consulting with each other to resolve all kinds of problems of distribution

Thoughtful distribution is the foundation of resource sharing. Therefore, all members of the document resource distribution system are equal in rights and obligations. When we discuss some problem, we should pay attention to the

interests of the whole, as well as the equality and mutual benefits for the whole the initiative. For example, during the cooperative subscription of the high-price journals, some ministries assigned institutes with abundant funds and good duplicating capability to subscribe and provide duplicating services. To improve the efficiency, each member must carry on the spirit of the coordination and encourage the style of taking the whole interest into account. We should adopt the system of democracy and centralization to resolve the disputed problems.

(3) properly deal with the relationship among duplication, saving and utilization

The purpose of the document resource distribution is to improve the supply and utilization rate of documents. Therefore, the relationship among duplication, saving and utilization should be properly controlled. It is not an unchangeable principle, but a kind of dialectical relation. Consequently, we should pay much attention to it.

(4) make full use of the computer technology

Lots of data need being handled. During the investigation and research of document resource distribution, checking the journals in each institute comparing them with standard databases like SCI, EI, etc. to examine the quality of its holdings, and compiling union catalogues both involve millions of data. If all the tasks are handled by hand, manpower and time will be seriously wasted. So we must make full use of computers to facilitate the checking, compiling and storing of data.

(5) attract leaders' attention and support of the whole information circle

Like other resources, document resources are also the wealth of a country. It has never been so true today to consider the strengthening of document resources as well as the providing of scientific and economic information as an important strategy since the "Information Age" became a focus. Therefore, every chief ministry and information institute adopted many positive measures to support the initiative and strengthen this project. Some ministries, such as the Ministry of Geology and Minerals, the Ministry and Railroad, and the Ministry of Textile Industry, have considered it a research project and allocated a certain amount of research funds. The Institute of Sci-Tech Information of China did some research on "Structure of the collection of the Institute of Sci-Tech Information of China". The National Library also studied its holdings in 1988. The Book and Information Publication Committee of Academia Sinica decided to take the research on "Distribution of Document Resources of Academia Sinica" as a soft project on academic level. The Information Bureau Ministry of Defense Science and Technology guided and launched the project on "Distribution of National Sci-

Tech Documents". Each region also developed similar researches and adopted many powerful measures. For example, under the leadership of the Province Sci-Tech Committee, the information institutes in Sichuan, Liaoning, Jilin and Hunan, etc. made a lot of management and development.

2. Existing primary problems

(1) the understanding of significance thoughtful distribution and resource sharing of foreign Sci-Tech journals still needs being improved.

In recent years, the information institutes of some ministries and regions have developed widespread researches on document resource distribution and had good social and economic effects. But, with regard to the nation-wide situation, this project has not been successfully developed in some ministries and regions. The most important reason is the lack of understanding. They have not understood the further theoretical and practical significance of this work. And there still exists pragmatism, short-sight and fear of the pressure in both information circle and chiefs of ministries. Because of the difficulties, some ministries, provinces, cities and autonomous regions have not started this kind of project.

(2) the unbalanced relationship between the distribution research and development of the foreign journal and the actual coordination and cooperation

Because of the divergence on ideology, the attitudes to document resource distribution and cooperative purchasing are different. Therefore, some institutes have started, while others have not; some done quickly, while others slowly; some made deep and comprehensive research while others were satisfied with the temporary and superficial results.

(3) without standardized statistical methods and calculating units

Neither macrocontrol nor microcoordination can be carried out without investigation, research and data. To acquire reliable data involving different institutes, strict statistical methods and unified units are needed, especially in the research of journals. In recent years, with the application of new technology and complication of media, it is inevitable to meet the problems of calculating units of year, type, book form and binding volume. Without unified standard, the statistic will absolutely have no significance. Therefore, it is necessary to work out a standardized regulation.

(4) missing authority of the existing chief ministries and coordination committee

The information department of ministries in charge of the nation information services and the interministry book and information coordination committee in charge of the book and information coordination, have developed some helpful

coordination, carried out and implemented some plans, obtained some outstanding achievements since their foundation. But because of the effects of planned economy, national and regional information coordination committees are not in charge of the funds. Therefore, their authorities are not demanding. They only can persuade, mobilize, but can not efficiently carry out the tasks. Without powerful national support, each ministry has to go its own way. That spoils the implementation of the entire national plan.

(5) theoretical research still requires deepening

The national distribution of the document resources is a long-term project. The completion of the task is related to a number of theoretics and policies of Sci-Tech information services. So both theories and practical investigation should be paid great attention. Some institutes assigned research subjects, allocated funds, guided on administration, examined the research results, and obtained some achievements. Some ministries and regions still have not adopted these measures, that led to the different understanding and administration. Some consider it oversimple, others think it is lacking objective conditions and is difficult to implement. All these are the results of lack of theory guidance and practice.

V. Advice on How to Strengthen the Cooperative Purchasing of Foreign Sci-Tech Journals in China

1. Continuously underline the long-term significance of cooperative purchasing and foreign Sci-Tech journal resource sharing and make great efforts to improve people's initiative and positive impact

As far as the current task of information services in China is concerned, if we hope to build the service system and document supporting system all over the country and accomplish the strategic objective of the second step of our national modernization, we must exert great efforts to make better distributes collection and rational distribution of Sci-Tech journals, which are the most important technical information resource. Therefore, we must do research, understand, and propagate the great significance of Sci-Tech journals and distributed collection to technology and information business.

2. Positively advance the drafting and implementing of plans of foreign Sci-Tech journal distributed collection in ministries and regions

Foreign Sci-Tech journal is related to many theoretic and practical problems on current technical policies and information services; to a number of current national laws and regulations; to practical conditions like funds, manpower, etc. So it requires a fairly well conceived and practical plan.

When drafting and implementing a national plan of foreign Sci-Tech journal collection in each ministry, profession and region, it is most important to resolve the following problems:

(a) ideology and environmental analysis (b) mode and specific target (c) fundamental methods and steps (d) necessary conditions and measures (e) organization and management, etc.

To draft and carry out the collection plan on foreign Sci-Tech journals in national systems, professions and regions, the following tasks are also to be done:

(1) to summarize the experience and make the achievements well spread

Since the "National Books Coordination Plan" was approved on Sept. 6, 1957, especially since the 80's because of the implementation and execution of reform and open policy as well as the widespread application of new information technology, the information circle has been enthusiastic about the theoretic problems on document storage and distribution, and obtained some achievements. The contradiction between the development of information services and funds shortage has become more and more intensive since 1985. With the establishment of the Interministry Information Services Coordination Committee in 1987 the relevant theories and practice have closely combined, and the storage improvement and coordination of libraries (institutes) have developed to those of a ministry or a region. A lot of research data and plans aiming at the implementation of resource sharing have been produced. They accumulated valuable experiences in investigation, organization and management of document resources, and discovered many general problems. But those problems discussed in most research reports and papers are still at the initial stage, require further study and practice. Therefore, it is necessary to sponsor national special meetings again, inviting experts, scholars and chiefs of some projects to study and summarize the experience in research mode, calculating unit, etc. In order to implement the further plan, we should affirm the basic experiences, praise the advanced units, energetically propagate the experience and new typical cases, make the spirit of document coordination and resource sharing known by all kinds of users, information workers and relevant managers.

(2) to strengthen and expand research on relevant theories and policies

The theoretic research on rational distribution of document resources emphasizing on Sci-Tech journals has been carried on for more than 30 years. Many useful papers have been published at home and abroad. During this period, they have put forward many principal opinions and advice to promote the development of national distribution of document resources. Since the document resource

construction is a dynamic and systematic project, most of its work is restricted by external elements such as current social environment, technical economic conditions. Therefore, the relevant research on theories and policies must be continuously strengthened in order to carry on the distributed collection Sci-Tech journal successfully. On the one hand we should continue to explore the theoretic basis and mode in the light of the problems encountered in the past, on the other hand, the internal relations between external environment and major factors in the document and information business should be carefully studied. I had searched, read and analyzed dozens of papers and research reports on document resource investigation and distribution, few of them make analyses and forecasts on the external environment. This illustrates that it is necessary to expand the research scope of relevant theories. Furthermore, the experience showed that if only we can clearly explain its effects on development of economy and technology, "Rational Distribution of Foreign Sci-Tech Journals" is a project by technicians and chiefs of economic and technical departments. Therefore, we must expand and deepen researches of relevant theories and policies to substantiate the basis of "distribution".

(3) to strengthen the leadership, organization and management

National foreign language Sci-Tech journal distribution is related to thousands of families. In fact, the work is a part of the basis of the national information systems. On one side, it is necessary to request every information institute or individual to establish the concept of macrosystem, macrodocument and macroinformation step by step, on the other side, National Sci-Tech Committee should continuously strengthen the functional management, and carry out a tendentious policy on funds, faculty, technical equipment and policy to the Sci-Tech information institutes of the central ministries and large regions, especially to the document and information institute on the national and ministry level. We must make their status, principal task and supporting condition clear to ensure their central position. In this way, we can strengthen the supporting ability of the national Sci-Tech document resource system and dispel the misgivings of users and information institutes.

3. In order to strengthen the leadership, or tighten the macrocontrol and administration, it is urgent to strengthen the functional management in every type of information institute.

For example, it is necessary to consult experts on some disputed problems with general significance about expensive serials. Some vital problems like funds application and use should be decided by certain authority.

In addition, it is suggested to strengthen the management of the interministry coordination committee on information services or set up a national document and information service group. Each country should allocate a certain amount of funds to do some coordination and carry out researches on the collection and distribution of foreign documents.

4. Strengthen the basic technical structure, raise the level of technical management and modernize the reporting method.

It is necessary to exchange the information in a country, a ministry or between several ministries, for acquisition coordination, interlibrary loans and request borrowing. Coordination requires large number of data to support its complementation. Therefore, improving the level of the management, reporting and retrieving services of journals and strengthening the construction of comprehensive and special journal database and networks are important tasks and conditions to realize the distribution and resource sharing of the foreign Sci-Tech journals. And every relevant ministry should make their own efforts. To accelerate the construction on this work, fee-based services can be exercised on the basis of a market economy. Besides, we should strengthen standardization of processing, managing foreign Sci-Tech journals to make it more convenient.

In short time a national network for collecting and providing foreign Sci-Tech journals will be set up, when the basic conditions are satisfied. This network system will prove to be a rationally distributed and well organized one involving multidiscipline and multi-supporting functions. Then the quantity and quality will be greatly raised.

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