Document Supply to Industrial Users of Database Services

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Document supply to industrial users of database services

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The raw material 'information' constantly gains in importance. Every year German industry suffers huge losses because of duplicate developments. This could be avoided to a high degree by selective utilization of data stored in more than three thousand databases.

In particular, industry involved in research is dependent on up-to-date and comprehensive provision of specialized information. This paper demonstrates how this provision can be improved by the co-operation of documentation centres, libraries, and database producers.

In addition to the efficient exploitation of modern communication techniques, it is proposed that databases include the availability source, or that separate availability source databases be produced. The aim is to make it possible for the user to order immediately the documents found in a search at a nearby library, and to get the document from there by a modern method, for instance by telefax.

An estimated 30 per cent of funds spent on research and development could be saved if the technical knowledge available were utilized more efficiently. This means that in the Federal Republic of Germany some 15 thousand million Deutschmarks are lost every year because scientific information is not available for the potential user at the right time, at the right place, and in sufficient quality and quantity.

In our opinion, there must be differentiation between two problem areas. First of all, there is still too little use of online databases, which would make the continuously growing flood of information more transparent by selective access, quick availability, and timeliness. True, in the recent past the importance of information as a productivity factor and its significance for R & D has been coming more and more to the fore in public discussion. Nevertheless, the utilization of databases by industrial firms and enterprises is as yet by no means satisfactory. This potential circle of clients, for instance, is represented by only a third of the present users of FIZ Karlsruhe, and this third consists almost entirely of the big enterprises of the secondary and tertiary sector of industry. Small and medium-size companies are not represented in a proportion which would do justice to their importance; the only exception being the chemical-pharmaceutical and the so-called high-tech branch. The reason for
this situation is to be seen not only in objective access barriers and inadequate availability of databases, but also in a lack of subjective acceptance of modern information and communication techniques and a lack of awareness of 'information' as a significant factor.

The second problem area, and this is the central subject of this paper, is the supply of documents to the users. This problem is not relevant as far as factual and full-text databases are concerned, so our paper concentrates on document delivery after online searching in bibliographic databases. This situation is characterized by the discrepancy between the possibility of receiving information on documents within a few seconds on the one hand, and the time-consuming, tedious way of searching for the documents' availability, and slow delivery, on the other. The problem of literature acquisition has become apparent through the possibilities of online searching. In addition, the demand for effective document supply increases, because firstly the resource 'information' grows in importance and secondly because the attitude towards the cost of information, its processing and documentation has changed in a positive way. This is proved by the fact that more and more big enterprises are setting up their own information offices, which is an excellent thing to do when one considers the fact that, for instance, chemical and pharmaceutical firms sometimes employ more than a thousand scientists. Users, without access to information intermediary offices, can turn to commercial information brokers and information intermediaries at libraries, universities, chambers of commerce, associations, technology transfer institutes, etc., or to database hosts directly.

Of the overall number of approximately three thousand databases, roughly six hundred are bibliographic and referral databases in science and technology, and they were offered world-wide in 1986. In the case of bibliographic databases, the producers are very anxious to announce new publications as quickly and comprehensively as possible. Research projects which are still in progress, however, are not considered here. We make special mention of this, as the requirements on information about research projects in progress are known, but databases rarely contain information on this subject. However, knowledge on research projects in progress is essential, not only for avoiding duplication of work in science and technology, but also for the whole field of technology transfer. This applies to industrial companies, universities, and research centres alike. In the Federal Republic of Germany there are the first signs of appropriate databases being produced. Two databases which are already known are FORIS (research projects in social sciences) and UFORDAT (environment research projects). It is also to be expected that those who are funding the projects will press more vigorously for an increase in the number of research project databases offered.

Of course, comprehensive collection and processing of data is the principal basis for information supply in general. But information supply still experiences delay because the users have to acquire the full texts they need in a complicated, time-consuming way. Thus, document supply is the weakest link
in the chain. As recently published monographs can usually be bought without much difficulty, and as they do not play a big role in science and technology, we turn rather to the acquisition of journal articles and grey literature, i.e. research reports, dissertations, conference papers, etc.

In the Federal Republic of Germany, the ZBD (Zeitschriftendatenbank: Journals Database), has been in production for some time now. This database contains journals with availability source. In the meantime, almost every library participates, which means that as far as journals are concerned there is a national referral instrument. It is possible to work online via the computer of the Deutsches Bibliotheksinstitut (DBI) in Berlin, or to work with a microfiche edition. The big advantage of the use of the ZBD is the fact that interlibrary lending requests may be sent directly to the libraries and do not have to go the roundabout way via the central catalogues. This method also enables the purposeful utilization of regional resources.

In the field of non-conventional literature, Central Specialized Libraries have the task of collecting and making available within the system of interlibrary lending specialized information with special emphasis on publications that are difficult to acquire or in an exotic or difficult language. For science and technology it is the Technische Informationsbibliothek (TIB) in Hanover which fulfils this task. With more than 400,000 external orders it holds first place in the Federal Republic of Germany. In close co-operation with TIB, the library of Fachinformationszentrum Karlsruhe offers grey literature on energy, physics, mathematics, and related subjects.

In particular in the field of grey literature there have been intensive efforts by database producers and suppliers not only to improve announcements but also information on availability. Because of the great difficulties in getting hold of non-conventional literature, many commercial facilities, libraries, and documentation centres within the Federal Republic of Germany and abroad have taken on the task not only to give the user the literature references but also to support him in the acquisition of the document. This is done, for instance, either by offering a document delivery service, or by naming the location.

Below we present a few examples, which have been taken from the daily work within FIZ Karlsruhe.

The first example we should like to cite is the INIS system (International Nuclear Information System) of the IAEA (International Atomic Energy Agency), in which some 70 member states from all over the world and 14 international organizations participate. All of them have committed themselves to make available the non-conventional literature reported by their own national centres. Furthermore, the national INIS centres are prepared to assist in the acquisition of difficult-to-obtain journals. The significance of a system of this kind can be assessed if one realizes that some 1.1 million documents are stored, a third of them non-conventional.

In the database NTIS of the National Technical Information Service, bibliographic data of more than 1.2 million research reports are stored. Most
of these reports are available — as a full text hardcopy or in microfiche form — at NTIS itself; the others are kept by contractual partners which in the Federal Republic of Germany is FIZ Karlsruhe.

The database SIGLE (System for Information on Grey Literature in Europe) is co-operatively produced by documentation centres and libraries in various European countries, which have committed themselves to make available every document recorded. The input of the Federal Republic of Germany also includes the location of the document.

The next step in the information chain is the ordering of the original document; we are talking again, in particular, of grey literature. Let us assume that the user has searched and that he also knows the location of the document he needs. As already mentioned, he now has the possibility of ordering the original document at the TIB Hanover. The price for a direct order form includes the supply of up to 16 pages paper copy, or up to 4 pages microfiche duplicate, or a loan request (within Europe). Every additional page is charged at DM 0.50. Rush orders at double the price will be executed on the same day. In order to speed up the conventional mail order, some database suppliers now offer the possibility of online ordering. For databases implemented on STN International, there are at present five suppliers who can be contacted in such a way, namely the libraries of FIZ Karlsruhe; TIB Hanover; German Patent Office, Munich; Information Centre for Regional Planning and Building Construction (IRB) of the Fraunhofer Society, Stuttgart; and CAS (Chemical Abstracts Service Document Delivery Service), Ohio. The documents can be ordered either database-specific with the ‘Accession Number’ (AN) or directly with the bibliographic data. Costs and delivery conditions correspond to those of a conventional order. TIB Hanover and the Bibliographic Service of FIZ Karlsruhe offer the user the possibility of obtaining the full texts ordered not only in the conventional way, i.e. by mail, but also via telefax. The following figure demonstrates how popular this service is with industrial users: almost 100 per cent of the orders received at TIB came from this sector. This describes the optimum way of document delivery. Following a search, the user orders the original document online and has it delivered via telefax. However, as long as this is not common practice in libraries, proposals for improvement should go in the direction of having search printouts designed in such a way that libraries may accept them as interlibrary order forms.

The information and documentation scene has been changing rapidly in these last few years, and it still continues to develop rapidly. It is not to be expected that written information will be overtaken by other storage media, but developments like CD-ROM or the variety of utilization and dissemination possibilities such as disks, microform, etc. should also be included in all considerations concerning document delivery. A first step in this direction has been the publication of dissertations in microfiche form; they are changed into hard copy only on demand. It is to be expected that information with quickly decreasing topicality and little utilization will only be published on demand or electronically. This means in very extreme cases that the author would supply
his publication to the publisher or to a library on a disk. The interested user

can, if he wants to, get at the publication via this electronic medium. Despite
the fact that electronic publishing does not play an important role yet, it is to
be expected that its use will increase once appropriate networks and equipment
are available. An example for perspectives of the future is the project
ADONIS (Article Delivery over Network Information Systems). Some 250
popular journals are offered via CD-ROM, and the user can have hard-copies
on request. The results of this pilot test (TIB Hanover Central Library for
Medicine, Cologne, and British Library, London, are taking part) should be
watched with interest.

As we have already said, there are perspectives for an improved situation in
document delivery on account of the use of sophisticated and modern com-
munication technologies. As far as libraries are concerned, an important step
will be the production of machine-readable central catalogues, which will give
the user an overview of the stock of the various libraries and the possibility of
quick and direct ordering. Thought has to be given to the problem of how to
connect the bibliographic databases of the database suppliers to the catalogue
databases of the libraries. On no account should database suppliers start to set
up their own libraries; instead it should be a pressing task to think of how to
ensure that the user is offered an optimum service by a syndicate of co-
operating libraries, documentation centres, and database suppliers. At the
same time, the libraries will need efficient technical installations, e.g. powerful
copy and telefax equipment. Also, it must be possible for the user to make his
orders online via comprehensive networks, or to turn to libraries via a mail
system. Database suppliers have the task of recording the stocks of the Central
Specialized Libraries in the form of availability notes; their documents are
held only once. Not only online availability notes and ordering, but also docu-
ment supply have to be organized according to the pattern of the Central
Specialized Libraries. Experience at these Libraries has shown that possible
additional costs are no obstacle to industrial users.

The misgivings, occasionally expressed, that in the case of extra fees only
users in a good financial position would profit, have to be modified in this
connection. In other fields, too, it is quite usual to charge extra for extra ser-

dices. Therefore it cannot really be an argument not to have this special service
because not all users can afford it. On the contrary, as firms are not reluctant
to pay for good information, they ought to receive an optimum service. On the
other hand, there is no reason to give preference to industrial users as far as the
standard service is concerned, because it is not proper to take time and staff
away from the free-of-charge standard service and put it into the extra service
at extra cost.

Summarizing, it should be emphasised once more that an improvement in
document supply should aim to make information acquisition easier. This will
only be possible if libraries, database producers, and database suppliers co-
operate. It has to be recognized that the industrial user is an important user,
and the whole spectrum of information services has to be tailored to his
habits and circumstances. This also applies to the maintenance of relations. Information offices have to have the support of everybody concerned and they have to be looked after well. The dialogue with this group of users of intermediaries can give the database suppliers, and libraries too, valuable hints concerning the daily work. In this context, the question of basic and advanced training should be mentioned. Trained document specialists and librarians in industrial information offices facilitate co-operation. Joint training seminars give valuable feedback and make it easier to obtain a good balance between demand and supply. Also the users from industry are not just to be seen as passive users, but also as suppliers of information. In this area in particular, a lot of persuasive work has still to be done in order that information exchange may be seen as an interactive process. It is generally known that only large firms pass on their in-house knowledge — and not even all of it. Thus, firms have to be convinced that their internal research reports and publications, too, should be channelled into the information process.

Finally, it has to be emphasized that document supply, which we called the weakest link in the chain of information production and information dissemination, has to undergo further integration in order that the complete process of information transfer may become more efficient.

Bibliography


