



The Needs of Industry For Library Services Beyond That Expected of Their Own Special Libraries And Resources Available To Them

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DURING THE PAST DECADE, both industry and libraries have been so affected by changes in technology that any but a historical discussion of the needs of industry for library services is bound to be speculative.

Within the past five years university, research, and large public libraries have been making use of electronic data processing even though most libraries do not have computers on their own premises. But computers are only one part of the information handling revolution which includes also the coming of age of the copying machine and the transfer of microfiche from a novelty demonstrated at library and documentation conferences to a standard means of distribution of information from the Clearinghouse for Federal Scientific and Technical Information. Such developments are making rapid changes in the pattern of library service.

Industry has been changed vastly by rapid advances in technology. With automation reducing the number of employees on the production line, the proportion of research workers may have to increase to keep the individual company in its competitive position. And with each new development, industry is increasingly dependent upon information for its continued existence.

There could be as many outlines of the needs of industry for library services as there are industrial librarians who have attempted to satisfy these needs. But industry has no interest in library service as an end in itself. It is only as the means of getting the information upon which it depends that industry will support library service. This

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has been the historic role of the industrial library. According to Anthony Kruzas:

Understanding of the special library idea must begin with a recognition of the fact that the special library represents a significant extension on all levels of the library's activities. It is just as pertinent to note that its farthest and most successful penetration was to be in the marketplaces of the nation where it was to compete for existence on the businessman's own terms: practicability, efficiency and profit.¹

Amid all the changes of the communications revolution, we thus find a continuing profit-making pattern which dominates the needs of industry for information, however much new technology changes the specific requirements and the library services which fulfill them.

It is convenient to identify industry's needs for library service through the collection practices of the special library within industrial organizations. With a very little imagination, one could make a case for the potential use some time, some place, of every bit of recorded information by one or another segment of the industrial community. Every industrial librarian has a favorite story of an unlikely piece of information for which he was asked—the price of peanuts in Austria in 1917, the number of kilometers in the *Tour de France* bicycle race in 1950. While it is difficult to place a high monetary value on such questions, they do represent some kind of need and illustrate that one cannot say positively that any bit of information will not be useful to someone in industry at some time. But industry is least likely to need materials which it actually has in its own organization, and can be expected to be most likely to need materials closely related to what it collects, but which it cannot justify buying for itself.

Unfortunately, one cannot generalize with respect to the materials that will be collected because it has long been recognized that "special libraries are no more alike than the firms they serve . . .,"² and that "The complete identification of special library objectives with those of the parent organization has been the main reason for variation in forms and practices, but it is also an attribute which all special libraries in commerce and industry have in common."³ But there are certain pragmatic considerations that are followed, consciously or unconsciously, by an effective industrial librarian. He will balance the cost to the company of acquiring and maintaining the material against the cost of getting the material on an ad hoc basis when it is needed.

The cost of acquiring the material goes beyond the purchase price and expense in staff time for selecting, processing and, eventually, weeding and discarding. It also includes the factors of storage cost multiplied by the number of years that the book will be useful.

The cost of getting the material on an ad hoc basis will be that of the individual borrowing transaction multiplied by the number of times the item will be used. The transaction price should include not only the cost to the company in staff time and postage, but also the cost to the lending library, whether a charge is made on an individual basis, a yearly charge or contribution for service is paid, or the lending organization is not paid directly but is supported out of taxes. The last case may deserve special consideration. The company pays a great deal in taxes and would have to do so whether or not it took advantage of the services of tax-supported institutions. On the other hand, many such institutions could provide only a token service to each taxpayer if all were served in proportion to their support. Many companies make it a practice to give voluntary contributions annually to public institutions when they make extensive use of their library services.

With the cost of borrowing materials, one must also consider the value to the company of the time and effort wasted if the material is not available immediately when it is needed.

It is clear that the greater the importance of the book to the company, as measured by its use, the more likely is it to be economical to buy it, since the cost of storage is a rather small factor in comparison with the cost of several individual loans. On the other hand, the costs of borrowing transactions and of lack of prompt availability can be expected to go down rather rapidly as provision of photocopies and techniques of facsimile transmission continue to be improved. And these costs will become proportionately even less as publishing prices continue to increase. Thus, there are basic economic reasons for the constant changes in the type of material most likely to be collected within an industrial library and, conversely, least likely to be needed from other library services.

Within this framework, the kinds of material to be purchased will fall roughly into three groups: that related to the product or primary objective of the company, that concerned with programs used to accomplish its objectives, and that directed toward the development of the individual staff member of the organization.

Whether the company's product is a whole series of plastics and

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devices formed therefrom, or merely the "know-how" that will be used to solve someone else's problem, there is a core area of information concerned with its output which the company will have to have. If this information has been published, the staff must have ready access to it, whether or not a company library exists. Industrial librarians can cite examples of handbooks of which they purchase 50, 100, or even 500 copies so that each individual staff member may have one at arm's length. Key journals, such as the *Journal of the American Medical Association* or *Journal of Pharmacology* for the pharmaceutical industry, are also purchased in multiple copies.

But beyond a core area there are a great many publications concerned with the products of a company which its library will not have for a variety of reasons.

First, there is usually more published on any one subject than an individual company can collect economically. One industrial representative describes his plant library of 1,300 books, 140 periodicals, and 47,000 microcards, but affirms that ". . . there is no company library existing that can have on its shelves all the technical data, reference knowledge, and volumes necessary to supply the desired information on any one subject. We constantly have to use many outside sources to obtain the needed information necessary to meet the challenges of today in our manufacturing operations."⁴

A second reason for incomplete collection in its core area by the company library is that the core area is undefinable because it is impossible to place boundaries on information which is pertinent to the company's objectives. Studies have shown that in any given field a high proportion of the references cited are from a very few journals, and that there is a wide scattering in the remainder of the journals cited. This led B. C. Vickery to conclude that there is a ". . . great interpenetration and interdependence of every field of science and technology, with its corollary that no 'special' library serving the scientist can ever be restricted to a 'special' subject."⁵

Vickery also observed that ". . . subject dispersion is less marked in those pure sciences that have well-defined limits and established special literatures (chemistry, physics, geology, astronomy). It is higher for the younger sciences and for the technologies which depend on the literature of parent sciences."⁶ In the supporting figures, 71 per cent of the papers cited in chemical papers were chemical, 19 per cent were in the closely related pure sciences, and 10 per cent were in other fields. For dairying, however, only 39 per cent were on

that special subject, 11 per cent were closely related, and 50 per cent were in other fields.⁶ For our purposes, these figures are only suggestive, because they were collected a number of years ago and are based on references which a scientist cited as opposed to those which were known to be used. They imply that research may have been interdisciplinary for longer than it has been recognized as such. But as team research is formalized and project members are gathered from the various disciplines, the librarian will have increasing problems in determining the scope and coverage of his collection and will have to rely more heavily on outside sources.

General studies of use of the literature by scientists give us at least two other criteria for selection of materials to be held in the company library: timeliness and language. Figures suggest that a quarter to a third of the material being used in scientific and technological organizations was published during the current year.⁷⁻⁸ And it seems clear that English-speaking scientists tend to cite more papers in their own language than any other language.⁹ Thus the industrial librarian will tend to hold journals for a relatively short period, and to collect a much greater proportion of English-language material than of foreign. In each case, he will occasionally need the older journal and the reference in a foreign language, but he will go outside his own organization to satisfy these needs. In the case of the foreign-language material, his first attempt will probably be to find the material in translation, and the foreign piece may be accepted for local translation only when no ready-made one is available.

Although we have demonstrated that many needs of industry for library services will pertain to its product interests, requirements also develop out of the various functions performed in accomplishing its basic objectives. A recent British library survey shows that ". . . by far the largest user group (just over 50 per cent of our sample)" consisted of "working scientists, engineers, and other graduates directly engaged in research or development."¹⁰ In descending order, other users were technicians (20 per cent), administrative/executive-type users (12 per cent), and technical/executive-type users (11 per cent).¹¹

In this country, such functional departments as advertising, marketing, and production each have important needs that are not directly related to the product of the company. In a pharmaceutical company, the library answered a whole series of questions for the advertising group concerning the origin and exact meaning of common

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expressions such as "Carrying coals to Newcastle"—scarcely something one would have expected to be needed by a drug manufacturer. A question as to the average and extreme temperatures in a South American country might come from a market research group looking for new areas in which to export a hot-weather product, or it might originate in a control laboratory which was evaluating shipping and storage requirements. In either case, the frequency of such questions would probably not be great enough to retain more than a couple of almanacs which might provide brief details on weather throughout the world. Further information would have to be obtained from larger libraries.

Most industrial libraries collect a certain amount of information on business patterns for their management, but the quantity will depend on the management and the strength of the business collections in nearby libraries. Requests from management groups may range into unlikely subjects when they involve speech making and general public relations. In larger corporations, special libraries are often set up to serve individual departments or groups, but in smaller organizations it is seldom economical for the industrial library to anticipate the needs of its functional departments further than providing a few textbooks and handbooks and the basic technical journals. When more detailed information is required, the company library will have to find outside resources.

The third aspect of needs of industry for library service is concerned with the development of individual staff members. From a practical point of view, there is a short term expiration date on every degree granted today, and industrial management recognizes:

When a person fails to build on the education he has achieved, he fails to extend it, fails to use it for what it is in its most important sense, a springboard for a lifetime of learning. He must strengthen the learning he has mastered or he will make no gain and will actually lose ground very fast.¹²

The routing of current journals is historically a function of industrial libraries, and many librarians routinely called staff attention to items of particular interest long before the phrase "selective dissemination of information" (SDI) had been coined with the entrance into the picture of computer-based SDI programs. Although continuing staff education related to current assignments is generally agreed to be the responsibility of an industrial firm, other kinds of employee

self improvement are much more difficult for the company special library to support.

Enlightened management is usually anxious to have its full-time worker become a part-time scholar, but the present library world was not planned for the man who drives fifty miles two times a week to attend advanced university courses. He does not have the time or energy to drive to the university on additional evenings to make use of its reserve book collection for his extra reading assignments; yet it is sometimes difficult for the company library or local public library to collect or borrow the titles he needs. There are a number of partial solutions to this problem, which is certainly not unique to industry, but this author is unaware of any wholly satisfactory answer.

There are other needs of individual staff members—in the realm of hobbies and recreational reading—which are generally considered to be the responsibility of the public library rather than of industry. In their interest in developing and retaining their employees, some companies have actually established recreational libraries, often in cooperation with local public libraries.¹³

To this point we have been discussing the needs of industry as represented by present practices and the impact of new technology on those practices. But if we are to insure the best use of information as an important national resource in an industrial country, we must turn the tables and ask: "What are the total industrial needs for library service—potential as well as observed—and what impact should these total needs have in changing the patterns of library service in the future?"

The primary need is to get existing, published information used effectively. To accomplish this objective, the published literature must be made more readily accessible through central, reliable analysis of the material which makes every piece readily available no matter where it is stored. As a corollary, duplication of effort must be avoided at all levels.

"The strong representation of non-book material in company libraries [which] has been repeatedly singled out as characteristic of the special library"¹⁴ needs to be examined in the light of lack of availability of non-book materials elsewhere. One cannot estimate what proportion of trivia or ephemera one would find on the average in the vertical files in company libraries. But they are sometimes used to store materials simply because the librarian has learned from experience he will not be able to find them when they are needed

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unless he keeps them himself. Clippings from newspapers or trade papers which give statistical information, or manufacturers' brochures describing specific chemical compounds, for instance, are frequently unavailable from research libraries or through the standard indexes. A comparison of the files of several company libraries might provide a list of kinds of ephemeral material which should be indexed and made available through a regional center or other information source.

If material is published originally in card form or microform, it is quite likely that the only way the librarian will be able to get it to the industrial premises will be to buy it. And much the same situation exists for magnetic tapes, although certain commercial agencies offer the option of buying the tapes or paying a charge for search service at the central organization. If this pattern were followed for all non-book materials, the industrial library would probably collect fewer of them and, in preference, use them on a fee basis.

Other chapters in this issue will discuss regional and national coordination and the specialized information center. If we can accomplish far better organization of information resources into a network of readily available services, we shall have gone far toward making the more important change of getting information resources effectively used by individuals in industry.

Until now, user surveys have revealed that scientists get a relatively small portion of the information they use by turning to the library.¹⁵ Nobody will deny the value of a variety of sources of ideas, but we must deplore the lack of use of the available published information. The use of English-language material in preference to foreign may be the only practical way for the industrial employee to get a job done without spending undue time in data gathering at present. But surely research done and data collected in other countries are of value when they are available in translation or the facts have been digested and presented in manageable form for ready reference.

In the past the special librarian has used every method from a sort of intellectual seduction to an attempt to reorganize all knowledge specifically for his company purposes, in endeavoring to bring to the members of his organization all the information they needed. On the basis of a casual luncheon conversation, the librarian may have supplied a young lawyer exact details on how to transplant an azalea, in the hope that the lawyer would turn to the library when he needed statistics on product use for a court case.

This "loss leader" technique should eventually become as out-

moded as in any merchandising venture when the products to be sold become so reliable and so attractively packaged that they sell themselves. It does illustrate that the company librarian in the future will become more and more a professional merchandiser—an interpreter and dispenser of information—and less concerned with manipulating and compiling it. As the retailer of information, he will be familiar with the complex network of services available and will know how to find the best information most quickly. He will also provide guidance concerning the requirements of industrial users to specialized information centers, abstracting and indexing services, and other segments of the national information network. He may himself participate in the network as a resource person concerning information in the core area of interest to his employer. When the librarian can make available truly useful packages of information to scientists, technologists, and other staff members of the industrial organization, they will not hesitate to turn first to the library. Other means of obtaining information still will exist, but they will be used only when they are most effective and not because the industrial staff member does not know that he can get the information from the library, or because, from past experience, he thinks it will be too difficult and time consuming to get it there.

This millennium will come. Because of many years of experience in industrial libraries and, more recently, five years in working with a computerized medical indexing system (MEDLARS),¹⁸ this author is aware of an infinite number of stumbling blocks along the way. Progress will be made only when all information specialists focus on the individual user of information. The needs of industry are those of a large and highly motivated segment of the total information-using population. But they are not unique. To satisfy them, an information network must be built which will satisfy the information needs of all.

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16. MEDLARS is an acronym for Medical Literature Analysis and Retrieval System.