AUTOMATIC SELECTIVE DOCUMENTATION SERVICES

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Cameron Station
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User-needs studies often present figures indicating that documentation services systems which rely on the mails are inherently incapable of effectively supporting more than half of all research and development tasks. In addition to investigating faster ways of transmitting information, DDC has also been developing and testing systems based on another approach: one of determining users' specific documentation requirements and automatically disseminating the needed documentation to the users' local libraries as soon as it becomes available.

This general concept was applied to the selective dissemination of both report announcements and full-text reports. Three different types of selective announcements, all produced on a regular semimonthly basis, were developed and tested: (1) automatic bibliographies, (2) group announcement bulletins (each of which contained announcements in just one of the 188 specific DoD-modified COSATI subject categories), and (3) selected announcements on magnetic tapes which could then be used as a basis for local SDI services. Selected reports were disseminated on the same semimonthly basis as the announcements, but in only one form—microfiche.
Documentation
Selective Dissemination of Information
Current Awareness Services
Automatic Document Distribution
Interest Profiles
Bibliographies
Magnetic Tape
Microfiche
The concept of automatically providing the Defense Documentation Center (DDC) users with selective documentation services has been the primary focus of development efforts within DDC since July 1967. At the beginning of calendar year 1968 DDC embarked on a test program to determine the feasibility of this concept.

Although portions of the program are still in a test status at this writing, much has already been learned. This report presents the need for such a program, the concept behind it, the testing of that concept, the presently determinable results of that test, and the probable future of the program.

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During the past decade or so many technical libraries and information centers around the country have initiated internal programs for the Selective Dissemination of Information (SDI) to their users. A few years ago the Defense Documentation Center (DDC) decided to apply this same concept of selective dissemination to the documentation services which it provides to technical libraries and information centers.

After several years of experimentation and testing, DDC has concluded that the principle of selective dissemination can be effectively applied to several of its regular semimonthly documentation services.

1. Users with electronic data processing capabilities can be regularly provided with magnetic tapes containing bibliographic citations to all of DDC's most recent technical report accessions. These tapes, provided as much as a month in advance of the corresponding issue of the Technical Abstract Bulletin (TAB), can be employed (either alone or in conjunction with other tapes) as the basis for the user's internal SDI and bibliography programs.

2. Libraries which had been requesting large numbers of technical reports can now be provided with as much as 86 percent of their DDC document requirements at the same time they are provided with the corresponding TAB announcements of those documents. Thus, they can now respond immediately to a majority of the requests they receive from their local users. The actual portion of requests which can be filled at the local level will progressively increase with the accumulation of documents (on microfiche) received through this service.

3. The coordinated application of the magnetic tape announcement service and the automatic document distribution service can enable local libraries to provide their users with very responsive and highly effective documentation services.

4. Two varieties of DDC-produced SDI-type hard copy announcement services were also tested. One of them was based on a concept of fragmenting the TAB into individual subject categories which could be sorted and assembled by local libraries into SDI pamphlets for their users. The other was based on a direct application of the prevalent SDI concept, but with each SDI bulletin custom-prepared by DDC rather than the local user. Each type proved to have some good points, but neither seemed to be as cost effective as locally produced SDI bulletins and DDC cost considerations forced discontinuance of both.

DDC is now offering the automatic magnetic tape service to all users on a subscription basis. The automatic document distribution service is being provided to all users for whom its cost effectiveness has been determined. Experimentation with profiling techniques is continuing in an attempt to make automatic document distribution cost effective for more of DDC's users.
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I. INTRODUCTION

The basic concept of selective documentation services is certainly not new; forms of SDI (selective dissemination of information) have been tried by many organizations during the past decade, with varied degrees of success.

Most of the SDI programs, however, have been some variation of a type which are generically called current-awareness programs; i.e., instead of actually conveying any technical information to their users they merely alert them as to what information is currently available and how it can be obtained. Furthermore, practically all known SDI programs are operating at what DDC terms the "retail level"; the outputs of the system (announcements, current-awareness bibliographies, or whatever else they may be called) are routed directly to individual users or very small groups of users.

DDC has taken this SDI concept and modified it so that it might be applied to both current-awareness-type report announcements and full-text report copies on a "wholesale level" (with dissemination being made to technical libraries and information centers rather than to individual users).
II. NEED FOR IMPROVED DOCUMENTATION SERVICES

For many years DDC has been improving its existing products and developing new ones. But even the new products have generally been natural extensions of the traditional documentation services (announcement journals, document copies, and retrospective bibliographies).

Services have also been gradually but continually improved, particularly response times. These improvements have been made, however, by utilizing new equipment and optimizing internal work flow to speed in-house processing.

Although such improvements have helped, of course, it eventually became evident that really significant improvements in documentation services would require a new approach; namely, determining actual user requirements and developing new products and services aimed at fulfilling them.

A. User Information Requirements

User-needs studies within the Department of Defense (DoD) indicated that some major redesign of DDC's documentation services systems was required to more effectively respond to diverse user requirements.

Some of the more salient findings of the studies were summarized by W. C. Christensen, Director of Technical Information, Office of the Director of Defense Research and Engineering, during a North Atlantic Treaty Organization/Advisory Group for Aerospace Research and Development (NATO/AGARD) Conference in June of 1968:

1. Most technical information users are either engineers or are working in areas related to engineering, and their information problems are exceedingly complex.

2. While information, to be effective, is needed in less than a day by over 20 percent of the users, most users would really like to have their information needs met instantaneously.

3. When seeking information, most users turn first to their own personal files or a colleague, supporting Mr. Christensen's contention that "users operate on a minimum effort principal as far as requisition of technical information is concerned" and emphasizing the importance of local sources of information.

4. Because the amount of information being generated is tremendous and because it tends to have a short half-life, engineering information is most difficult to handle in a technical information system.

B. DDC Services and Performance

The user information requirements set forth in the previous section contrast sharply with the following aspects of DDC service in FY 1967, the last Fiscal Year prior to initiation of the test program:

Service Volumes

* 6,000 different user organizations were provided with documentation services.

* 50,000 different reports were announced in the Technical Abstract Bulletin (TAB).

* 264,000 TABs were distributed to users and were supplemented by a total of nearly 78,000 volumes of Quarterly and Annual TAB Indexes.

* 20,300 bibliographies (containing a total of approximately 3,000,000 references) were supplied to users.

* 1,850,000 copies of documents were requested.
  - 51 percent of all these requests were from 139 user organizations (only three percent of the active users).
  - 75 percent of all these requests were from 528 user organizations (only 12 percent of the active users).

Service Times

* The total service time (including mail distribution) required for providing document announcements (via TAB) averaged out to 44 days.

* The average total service time (including mail transit both ways) required for responding to bibliography requests was 12 days.

* The service time (including two-way mail transit) on document requests averaged 12.5 days.
C. Performance Implications

Comparison of the user information requirements as found in the user-needs studies with the services provided by DDC clearly implicated DDC's services and performance.

1. While the RDT&E (research, development, test, and evaluation) community is composed of diverse substantive interests, professional disciplines, quantitative and qualitative information needs, and differing local capabilities for processing information, DDC services have heretofore been providing only standard types of information products.

2. Although scientists and engineers invariably seek information at local sources first, there have been no active programs for improving and strengthening local information processing activities as part of a coordinated systematic plan to develop a DoD-wide integrated technical information system.

3. The documentation services which DDC has been providing may be generally characterized as outputs of a demand/response or "reactive" system: users request information or documents, the request is processed by DDC, and finally the information is forwarded to the requester. With over 22 percent of the users needing their information in less than a day, and, cumulatively, more than 47 percent needing theirs in less than a week, centralized sources such as DDC clearly cannot meet more than a small percentage of users' information needs through traditional demand/response distribution methods.

a. An average of more than 25 days is required to request, receive, and review a DDC bibliography, then request and receive copies of the desired reports. But, since 47 percent of all users' information needs must be fulfilled within a week, DDC's bibliography program has been effectively supporting much less than 53 percent of all RDT&E tasks.

b. While many RDT&E tasks require completion in two weeks or less, documents cannot be requested and received from DDC in less than 12.5 days, on the average. Hence, DDC's document service probably supports only a small percentage of RDT&E tasks effectively.

4. Although nearly 75 percent of all document services are utilized by only 12 percent of the active users, there have been few exceptions to the demand/response syndrome and its built-in delay of approximately 55 days from a document's availability at DDC to its earliest possible receipt by a user; i.e., no provision has ever been made for any form of "wholesale" document distribution by DDC.

5. DDC's inability to match response times to a variety of information usage rates (as related to RDME task duration) accounts at least in part for:

   a. the highly concentrated use of the majority of DDC's services by a small minority of large aggressive user organizations;

   b. the lack of use of DDC services by nearly 2,000 registered user organizations;

   c. the predominant importance of the local work environment as the primary, and all too frequently, the only source of information; and

   d. the fact that, according to the DoD user needs studies, over 43 percent of the RDME community is unaware of the existence of TAB and over 31 percent are unaware of the existence of DDC.

D. New Objectives and Goals

The preceding observations indicated a need for restructuring and realigning DDC's products and services in order to achieve the following objectives:

1. To provide for the diverse interests, requirements, and capabilities of user organizations and activities by offering a range of flexible documentation services.

2. To provide users' local technical libraries and information centers with more support through the provision of documentation services in "wholesale" quantities.

3. To provide more responsive, "active," document service predicated upon the document usage patterns of user organizations in addition to the existing "reactive" document service program. Such a program would selectively anticipate users' varying needs and be flexible enough to permit rapid, economical satisfaction of specific document needs.

In summary, then, these were DDC's parameters for defining a new approach to document announcement and dissemination systems—a new spectrum of documentation services in response to RDME users' information requirements.
III. PROGRAM CONCEPT

A. Descriptions of Planned User-Oriented Services

Recognizing the need for documentation services more capable of meeting the diverse user information requirements, DDC developed a concept for a program of user-oriented services. The program concept may be most readily explained by defining the different categories of users as classified by DDC and describing the types of services which were felt to best suit their needs.

Even though no two user organizations are likely to have exactly the same information requirements, most attempts at classifying or grouping users result in three categories:

1. Low-Volume Users

These users are generally organizations working on small, specialized DoD projects. The libraries of most are somewhat limited in their information services capabilities and, as a result, request only a few documents per year from DDC.

2. Medium-Volume Users

These are usually larger, more active organizations working on more complex DoD projects. Most have adequate technical libraries and may either plan or already have some automation. They annually request hundreds of DDC documents.

3. High-Volume Users

These are the large, active, aggressive organizations working on comprehensive DoD projects. Nearly all have several small technical libraries and a large automated central library which uses DDC services heavily, requesting several thousand documents per year.

To better meet the information requirements of these different categories of users, DDC planned to develop the following selective documentation services:

Selective Announcement Services

User interest profiles would be constructed, and as each of DDC's semimonthly input processing cycles was completed, copies of all report announcements falling within the parameters of the profile would be produced and sent to the user. These announcements would be produced and disseminated in several different formats.
a. **Automatic Bibliography Service**—to provide users with bound computer-printed listings of report citations in subject areas of interest.

b. **Group Announcement Bulletin (GAB) Service**—to provide users with loose-leaf pages containing report citations falling within given Committee on Scientific and Technical Information (COSATI) Subject Categories of interest.

c. **Automatic Magnetic Tape Dissemination (AMTD) Service**—to provide users with magnetic tapes containing report citations of interest.

**Automatic Document Distribution (ADD)**

Users’ document-need profiles would be constructed and, upon completion of each DDC semimonthly input processing cycle, microfiche copies of all reports falling within the scope of the profile would be produced and sent to the user.

These automatic services, offered in conjunction with the demand services already available, would enable users to select and employ whatever combination of services they found to be most beneficial.

A large organization, for example, might receive an AMTD magnetic tape and an ADD shipment of reports on microfiche shortly before receiving its TAB. The microfiche (and the TAB, when received) would be filed in the technical library while interest profiles from the organization’s scientists and engineers would be processed against the magnetic tape to produce individual announcement bulletins which could be disseminated directly to the end users. If, upon reviewing his announcement bulletin, the end user found a reference to a document he wanted to see, he could go to the library and read it on a microfiche viewer, making copies of any pages needed for further study. If a hard copy of the complete document were still desired, it might be requested, of course. The organization could then either reproduce it from the microfiche or forward the request to the National Technical Information Service (NTIS). In any event, the end user would be made aware of the report somewhat sooner than before and the information contained in the document would be available much sooner.

**B. Expected Impacts**

**ADP Equipment Impact**

At the time the Selective Documentation Services (SDS) Program was planned (1967), DDC was employing a UNIVAC 1107 computer to process
requests for documentation services. While this system would be capable of handling the SDS work loads during the initial test, it was clear that additional data processing capabilities would be required to effectively support subsequent phases.

**Microfiche Equipment Impact**

During the design stage of the program DDC recognized that it did not have the capacity for producing the large numbers of microfiche which would be required, even in the initial test phase. The increased capability necessary for the early phases, however, could be readily provided either by contracting for microfiche reproduction support or by leasing or purchasing additional reproduction equipment that was available even then. But obtaining the reproduction flexibility, speed, and economy so necessary to the successful development of an operating system would require substantial improvements, and possibly even totally new developments, in mechanized microfiche equipment for duplicating, sorting, and packaging.

**Printing Requirements Impact**

Even the initial phase of the program was expected to cause significant but manageable increases in DDC's printing work load, largely because of the large number of copies of each of the 188 separate GAB issues required (one for each of the 188 COSATI Subject Categories) which would have to be printed and sorted. Subsequent expansion of the GAB service in later phases would probably require acquisition of additional printing equipment and/or development of specialized sorting equipment for use in assembling users' GAB shipments.

**Personnel Impact**

It was expected that the shift from "normal" processing operations to those of the SDS test program would necessitate some realignment of manpower resources within DDC, particularly in the microfiche and printing areas.

The extent of work load displacement which would occur in the microfiche area would, of course, depend upon the microfiche volumes required and the degree to which the "normal" demand request processing work load would be reduced by the ADD service. For the first few months of the test, however, no reduction in the demand request work load would be realized; instead, because of the time lag involved, the ADD work loads would be totally additional to the normal ones. For these reasons, therefore, contractual assistance might be necessary during the first phase of the ADD test.
The GAB service would create a sizable additional work load in the printing area, due in part to the increased printing necessary but mostly to the difficult GAB sorting process. While a reduction in the bibliography processing work load was anticipated, it was not expected to be a large enough reduction to offset the increased work loads in the printing area. And, even if the reduction should be large enough, the time lag prior to its effect would be even longer than in the case of ADD service.

C. Potential Benefits

The SDS program concept was developed in recognition of the broad spectrum of information requirements represented by the diverse elements of the RDT&E community. Accordingly, the program was keyed to providing a range of flexible documentation services which would be more responsive to the needs of individual users.

Through this program users could be rapidly and efficiently provided with most of the information they would require from DDC. With a flexible range of services from which to select, a user organization could obtain documents and information that would not only be within its scope of interest, but also in a form that would permit their efficient use in responding to local information needs.

This development of expanded and diversified products and services should substantially increase DDC's capability to effectively support DoD RDT&E programs for several reasons:

a. Providing local technical libraries and information centers with much more responsive and comprehensive support should increase their interest in, and effective use of, DDC's documentation services.

b. Improving and strengthening users' local information centers should greatly increase both their usefulness and their usage rate, helping to close the most important link in the information transfer chain by getting the information to the scientists and engineers who need it.

c. Providing scientists and engineers with ready and immediate access to most DoD documents and information should make it possible for DDC to effectively support an additional 50-75 percent of the RDT&E tasks which it was not previously capable of supporting.

In summary, decentralizing information services in those instances where "wholesale" packaging and distribution by DDC and subsequent "retail" processing by local libraries are feasible, would result in both more effective and more efficient transfer of DoD RDT&E information.
IV. TEST PLAN FOR SELECTIVE DOCUMENTATION SERVICES

A. Design and Scope of Test

In August 1967 DDC began planning to test the validity of the Selective Documentation Services concept. The result was a plan for a feasibility test originally known to the user organizations which participated in it as the Automatic Services and Products (ASP) test.

The following three types of Selective Announcement Services, mentioned in the preceding section, were designed and developed for use in testing the concept of automatic announcement dissemination:

**Automatic Bibliographies**

These would be bound, computer-printed listings of all report citations (in AD number sequence) falling within the parameters of the user's interest profile. Single copies of one or more of these custom bibliographies would be supplied semimonthly (on a TAB-cycle basis). If needed, copies could be reproduced by the user library, in compliance with applicable security regulations, and distributed within the organization. (It should be pointed out here that, unlike other DDC announcement products, since these bibliographies were to be custom-prepared and bound they could be sufficiently controlled to permit inclusion of classified citations.)

Figure 1 is a sample unclassified citation from an Automatic Bibliography.

**Group Announcement Bulletins**

DDC's TAB has always been organized according to the DoD-modified COSATI Subject Categories—with the 22 COSATI categories (Fields) providing the major subject breakdown and the 188 COSATI subject headings (Groups and Subgroups) providing the minor subject breakdown. The Group Announcement Bulletins would be nothing more than unbound publications (most would be either a single loose-leaf page or a couple of loose-leaf pages fastened together), each containing all of the citations appearing...
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AD-822 880

ARNOLD ENGINEERING DEVELOPMENT CENTER
ARNOLD AIR FORCE STATION TENN

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PROJ.: AF-6069, 4RO-VT0626

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under a single Group (hence the name) or Subgroup heading in the corresponding TAB issue. DDC would print, sort, and ship the GABs in accordance with previously established user interest profiles specifying which GABs, and how many copies of each, were desired by each user. The user could then distribute the GAB copies within the organization according to individual users' needs.

While the GAB service would not be nearly as selective as the Automatic Bibliography service, it should be far more versatile. With 188 different subject categories, selectivity should be sufficient for most user organizations, yet profile structuring and production and handling problems would be far less than for custom-prepared announcements.

A sample GAB is reproduced in Figure 2.

**Automatic Magnetic Tapes**

One of the biggest problems facing organizational users of scientific and technical information is the proliferation of information sources and services. With over 550 different information services presently operating in the United States, the same report is usually indexed and announced by at least two and often as many as five of them. This frequently provides users with as much confusion as help, since they must find some way to make sure that their scientists and engineers are made aware of all potentially useful reports yet they cannot afford to have them read each announcement twice or to request the same report from several different sources.

The only feasible way for high-volume users of documentation services to cope with this problem of redundancy at the present time is to operate their own internal SDI service. But this is also a very expensive proposition as automatic data processing capabilities are essential and a considerable manual effort is still required just to get the desired contents of the various announcement publications into a machinable form. Because it would provide announcements of new DDC accessions, in user-selected subject categories and in machinable form, the AMTD service should be ideally suited to those high-volume users operating their own internal SDI system.

The AMTD service would provide computer-produced magnetic tapes containing all of the report citations from one TAB which fall within the parameters of the user's interest profile. While the profiles to be used in selecting the report citations would be the same type as the ones used in the GAB selection (COSATI Fields/Groups/Subgroups profiles), the format of the resulting magnetic tape would be the same as that of the Automatic Bibliographies, with citations in AD Number sequence.

Through the AMTD service each participating user organization would receive a new tape each TAB cycle. This tape could then be employed, either alone or in conjunction with similar tapes from other organizations,
DvC
Group Announcement Bulletin
FIELD 8/GROUP 3 - DYNAMIC OCEANOGRAPHY

Issue No. 69-1

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as the basis of the organization's own internal SDI system. Interest profiles could then be developed for individual users or small groups of users and used to extract citations from the tape for inclusion in computer-prepared, current-awareness bibliographies or special announcement bulletins.

Once the preparation of announcements was completed, the current tape could be merged into a master file built up from previous tapes. This master file could then be used, much the same as at DDC, in preparing retrospective bibliography searches.

All three of the automatic announcement services would include only announcements of classified and unclassified, limited reports. Announcements of unclassified, unlimited reports would be excluded to eliminate redundancy with the Clearinghouse for Federal Scientific and Technical Information (now part of the National Technical Information Services) which processes and announces all unclassified, unlimited DDC accessions. The unclassified, unlimited reports themselves were to be excluded from the ADD service for much the same reason.

In addition to the unclassified, unlimited reports several other categories of reports would be excluded from the ADD service: reports bearing security-attached release limitations such as Restricted Data or Formerly Restricted Data would not be sent automatically; reports bearing distribution limitation statement Number 5, "Controlled: all requests to (controlling DoD office)," could not be mailed automatically; reports bearing other distribution limitation statements limiting their release (without prior approval) to only certain categories of users could not be sent automatically to any user outside the particular category designated; and, of course, classified reports could not be sent to users lacking the applicable facility clearance and "need-to-know."

**Automatic Documents**

Users' document-needs profiles would be constructed, and upon completion of each DDC semimonthly input processing cycle, microfiche copies of all reports falling within the parameters of the profile would be produced and sent to the user. To facilitate profile construction, processing, and interfacing of the automatic services by the users, most of the profiles would be the same type as the ones used in the GAB and AMTD services (COSATI Fields/Groups/Subgroups profiles). A very limited number of search term profiles would also be tested, however, to determine whether that much higher degree of specificity could possibly be applied to automatic document distribution.

The users participating in the test would be permitted to select any combination of automatic services that they felt their organization could effectively and efficiently use. During the test DDC would evaluate
the following factors for each of the automatic services and compare them with those for each of the equivalent demand services:

1. Effectiveness and general user acceptability of service
2. Timeliness of service
3. Usage volumes
4. User's handling work loads and costs
5. DDC's production work loads and costs

B. Selection and Orientation of Test Participants

At the time the test was planned there were approximately 6,000 organizations registered with DDC as users, but only about 4,000 of them requested any reports in a given year. A one percent sample of this active user community (considered to be all DDC could cope with in a test of this magnitude) would provide sufficient reliability, so DDC set out to select 40 users who agreed to participate in the test. Although selection criteria such as organization size and availability of microfiche equipment were considered, the participants were selected largely on the basis of organization type and report request rate. With respect to these two factors, the final selection produced a rather well-balanced test community comprised of 21 DoD organizations (seven from each of the three military services) and 19 DoD contractors. Ten of those selected were high-volume users, 18 were medium-volume users, and 12 were low-volume users. The distribution by organization type was fairly close to that of the total DDC user population, but the distribution by report request rate was heavily biased toward the medium-volume and high-volume users as these were the types of users for which the services were designed. (See figures 3 and 4.)

During October 1967, the test program was presented to the selected users in a series of workshops held at DDC. These workshops provided an opportunity for discussing the test plans and refining them. The profiles required for the various mixes of test services desired by the users were also developed during these workshops (see appendix A).

The test participants were asked to orient their local personnel as to the objectives of the program and the procedures to be followed during the test, with some emphasis being placed on orientation toward the use of microfiche and microfiche equipment.
## DDC User Population Matrix

<table>
<thead>
<tr>
<th>Description</th>
<th>DoD Organizations</th>
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<th>DoD Contractors</th>
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<th>Line Totals</th>
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<td>NAVY</td>
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<td>EDUCATIONAL</td>
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<td>Column Totals</td>
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Figure 4
V. TEST OPERATIONS

Following the orientation workshops DDC had to complete the many systems improvisations (see appendixes B through G) required for the test and to acquire the additional production capabilities required for the test. Wherever possible, existing computer programs and established work flow patterns were used, modifying them only to the extent necessary to make the test possible.

A. Selective Announcement Services

Since two of the three types of selective announcements being tested would be completely new DDC products and all three types would be produced in-house, most of the development effort necessary was in this area.

Automatic Bibliographies

The system used for the production of the Automatic Bibliographies was the same one used to produce DDC demand bibliographies, with four minor changes (see appendix C).

1. The custom-prepared search patterns used to select items for demand bibliographies were replaced by user interest profiles, which were run each TAB cycle.

2. Instead of searching the entire DDC collection, as is done for demand bibliographies, only the latest TAB cycle's accessions were searched, with the process being repeated every TAB cycle.

3. Each Automatic Bibliography produced was bound in a special cover with a continuing title and search control number for ease in identification by the user.

4. In the event a user's interest profile produced no "matches" in accessions for a given TAB cycle, a copy of the profile bearing the notation, "NONE OF THE REPORTS ANNOUNCED IN TAB ISSUE ______ MEET THE REQUIREMENTS OF THIS PROFILE," was sent.

Being computer-printed, the Automatic Bibliographies required only bursting and binding to prepare them for shipment. As a result, they were usually ready for shipment 2-3 weeks in advance of the corresponding issue of TAB.

Because the name or symbol of the recipient was printed directly on each Automatic Bibliography, they could be routed directly to the end users, thus reducing the need for local library handling.
Group Announcement Bulletins

The production and dissemination of GAB's were more of a problem. Since DDC had never offered a comparable product, a completely new system for producing them had to be developed and implemented within a few months. The resulting system was therefore rather unsophisticated. (See appendix D.)

In the normal process of producing each issue of TAB, a magnetic tape of unclassified report citations for all of the AD Numbers to appear in it (sorted into field/group sequence) was prepared. This tape was chosen as the stepping-off point for a system to produce the GAB's. Using this tape, the production of GAB's then proceeded as follows:

1. The tape was copied, eliminating the citations to unclassified/unlimited reports.

2. The computer was then used to check the tape (containing unclassified citations to all of the unclassified/limited and classified reports) and list: (a) all of the subject groups to which no accessions had been assigned, and (b) all of the subject fields in which there had been accessions not assigned to any particular subject group. (These are document citations assigned to a subject field but no particular subject within it—a procedure employed when designation of the specific subject category, added to the other descriptive data on the citation, would place the entry in a sensitive category and preclude its inclusion in the GAB.)

3. Using these listings and the column totals from the master GAB production and distribution chart (a tabular compilation of all of the GAB users' field/group profiles) depicted in figure 5, a GAB production listing like that in figure 6 was prepared.

4. While the GAB production listing was being prepared, the computer would be printing out a listing of all of the AD Numbers included on the tape and all of the subject categories to which each had been assigned, hence, all of the GAB's in which a given AD Number would appear. This printout was then used to prepare the AD: Field/Group Index, a sample page of which appears in figure 7.

5. Shortly after the AD: Field/Group Index listing was printed out, all of the citations on the tape from the second step were printed out two-up (two citations per page) in a master GAB printout.

6. Using acetate overlays to provide headers and distribution statements on the first page of each GAB, each page of the printout was then photographically reduced and offset plates prepared. For those Groups to which no accessions had been assigned, offset plates containing the GAB header and the statement, "NO REPORTS ANNOUNCED THIS ISSUE," were prepared (see figure 8).
Figure 5

**GAB PRODUCTION AND DISTRIBUTION CHART**

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The number in each cell is the number of copies of each issue of the particular GAB indicated by the column that the user on that line requires.

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21
GROUP ANNOUNCEMENT BULLETIN COPIES

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Figure 6

NO REPORTS ANNOUNCED THIS ISSUE.
7. The required number of copies of each GAB, as indicated on the GAB production listing prepared in the third step, was then printed.

8. After printing, all of the pages were drilled to fit three-hole binders and those GABs of more than a single page were stapled.

9. The completed GABs were then sorted, according to the GAB distribution chart (Figure 5), into individual user shipments.

10. Copies of (a) a pamphlet containing general information for users of GABs, (b) a bulletin of changes in document classification distribution, and availability, (c) an AD: Field/Group Index; and (d) the TAB Indexes were added to each user's GAB shipment and the entire shipment was wrapped and mailed.

Because of the shortcuts taken in the production of GABs and the small number of users in the test program, DDC could distribute the GABs to participating user libraries 1-2 weeks in advance of the corresponding issue of TAB. When the libraries received their GAB shipments, they had to sort them according to individual or branch profiles and route them to the specific users concerned.

**Automatic Magnetic Tapes**

Excepting the medium used, the Automatic Magnetic Tapes were nearly identical to the GABs. The approach to their production was also quite similar; but because of the machine production possible with tapes, fewer production steps were required.

While the Automatic Magnetic Tape Dissemination (AMTD) experiment was initiated in January of 1968, progress was much slower than with the other experimental services in the ASP test program. There were many reasons for this, but among the most prominent were:

a. The AMTD test community was much smaller because the potential user community (DDC users with large active technical libraries and substantial EDP capabilities) was quite limited and participation was rather expensive.

b. The test users had to develop the capability (in terms of computer programs and an in-house SDI program) to use the service.

c. DDC's magnetic tape production capacity was severely limited at the time.
Early in 1968 the eight users participating in the experiment at that time were each sent a test tape for use in developing their own processing programs and internal SDI systems. These test tapes were all identical in content, each containing all of the unclassified citations to unclassified/limited and classified reports announced in TAB Issue 68-01. In other words, they were copies of the magnetic tape used to produce the master GAB printout.

As users acquired the capability to use the AMTD service, they submitted a blank reel of magnetic tape and began receiving AMTD service regularly. Since the users developed this capability at their own rate, they began receiving the service at different times.

The production of the Automatic Magnetic Tapes (charted in appendix E) then proceeded as follows each TAB cycle:

1. The user profile tape was validated against the Master Users Address and Contract File to insure that the user codes, contract numbers and facility clearances were current and that the selected COSATI subject categories (Fields/Groups) were compatible with the recorded Field of Interest Registers (FOIRs). (User interest profiles were identified by a unique search control number assigned by DDC.)

2. A search was performed against the searchable items from the latest TAB cycle's accessions for each validated interest profile. The accession number was output for those items with a "matching" COSATI subject category.

3. The selected new accession numbers were sequenced in descending order and matched against the citations within the TAB cycle.

4. The selected citations were then sequenced by search control number to collect all "matches" by user code.

5. The sequenced citations were formatted and sensitive fields suppressed to create an unclassified file. The data was then recorded on the user's supplied tape.

6. The citations selected for each user (in AD sequence) were then recorded on a tape supplied by that user.

7. The recorded tape was then labeled and shipped directly to the user library.

Upon receipt of the Automatic Magnetic Tape the user library ran the interest profiles of their personnel against the tape and compiled SDI bulletins. In this way, their scientists and engineers received selected announcements and did not have to circulate and scan the TAB.
B. Automatic Document Distribution

Like the GAB and AMTD service the ADD service was something completely new to DDC and a complete system for providing it had to be developed. To facilitate the development of the system and the coordinated use of these services, the ADD system was designed, insofar as possible, along the lines of DDC's other selective documentation service systems.

Once the test participants' ADD-service profiles (listings of all of the COSATI subject categories from which the users wanted the majority of documents announced) had been established, the following processes (charted in appendix G) were repeated each TAB cycle:

1. AD numbers of potential interest to the users were selected by running their interest profiles against a random-access file containing all of the searchable items (including the COSATI subject category assignments) from the new accessions.

2. The AD numbers selected for each user were then validated against that user's facility clearance and registered contracts. Those selections failing to meet this "need-to-know" validation were then dropped, while those passing it were written on a tape which listed, for each new accession, the user codes of all users for whom it had been selected and validated. This step is actually the same process used in DDC's request processing system.

3. This tape of validated selections was then used to prepare the microfiche production list (a listing of the AD numbers and the number of microfiche copies of each required) and report shipment notices.

4. The contents of this tape were then sorted into user sequence and used to prepare the microfiche distribution list, a listing of the user codes and all of the validated AD numbers selected for each of them.

5. The numbers of microfiche copies specified by the production list were then reproduced and sorted into individual user shipments according to the distribution listing.

6. The control forms necessary for each shipment were then prepared and the microfiche shipped to the participating users.

7. As soon as the microfiche had been shipped, the report shipment notices were completed, dated, and used to update the master file of reports usage history (the file from which most of the data necessary for a statistical analysis of the program would be taken).

Using the system just described, the test participants were provided with full-text copies of most of the reports they needed within 1-2 weeks after the publication of the TAB. Most user libraries, on receipt of their microfiche shipments, filed them by AD number and filled
their users' requests from them when possible. Several different methods were employed by user libraries in filling these requests: some asked personnel to come to the library and read the file copy, making prints of the pages needed; some lent the file copy; some made a duplicate microfiche; some blew back a hard copy; some let the requester use the file copy and ordered another one from DDC; and many used several of these approaches.

C. Evaluation Mechanisms

Several different media were provided to the users for use in relaying feedback to DDC and evaluating the ASP test. After the users had established their initial profiles, each of them was sent a confirmation sheet for verification of their service parameters and profile(s). These sheets were checked, corrected, or adjusted by the users and returned to DDC.

A user feedback sheet was developed and a copy was sent along with each shipment of ASP products. These sheets, to be completed by the user and returned to DDC, provided a ready means for making profile adjustments or noting any problems connected with the use of the ASP products. The information from these sheets—date of receipt, conditions of shipments, changes in profiles, and suggestions for improvements facilitated early evaluation of the services.

This feedback capability was even more important to the conduct of the test than to its evaluation as it permitted DDC to initiate corrective actions where necessary. Since the participants' inexperience in these new programs made it difficult for them to predetermine their requirements, changes in profiles and services were permitted throughout the test. This resulted in an ever-changing operational environment at DDC—2,048 profile changes had been made by the time the first six TAB cycles of the test had been completed—but it helped to improve the effectiveness of the test program and make possible a more realistic evaluation.

Statistics on production, volumes, response times, and service costs were compiled by DDC throughout the test, while test participants were asked to compile statistics on usage rates, internal distribution times, and service costs.

A test evaluation form was drafted early in the test and distributed to each of the participants for comments and suggestions for revision. The final evaluation form, incorporating some of the users' suggestions, was then distributed so that the users could complete it by the end of the test.

In addition to these written evaluations a summary workshop to be held after completion of the test was planned. The open discussions possible at such a workshop would provide additional subjective information which would be incorporated in the analysis of the experimental program.
VI. PRELIMINARY TEST EVALUATION

A. User Feedback

The first bits of information upon which any evaluation of the test services could be based came from the user feedback during the test.

Many of the feedback sheets, of course, requested profile changes, but some of them commented on the services. In order of frequency, the following were the most frequent types of comments:

1. Concerning the Automatic Bibliographies:
   a. "Several of the faculty members who received Group Bibliographies (GABs) rather than bibliographies based on descriptors would prefer the narrower-based descriptor listings (Automatic Bibliographies)."
   b. In Automatic Bibliography Number ___ "subject is of secondary interest in too many reports."

2. Regarding the GABs:
   a. Printing quality was poor.
   b. "(GABs) ___ and ___ were omitted from our shipment."
   c. Issue ___ GABs were received late.

3. The only comments received on AMTD were those concerned with shipment delays.

4. Pertaining to ADD service:
   a. Received Issue ___ microfiche two weeks late.
   b. Too many microfiche for our library to handle.
   c. Classified document receipt improperly filled out or missing.
   d. Comments on quality ranged from "poor" through "adequate" to "excellent."
   e. "Missing AD Numbers ___, ___, ____ and _____."

Although most of these comments, as mentioned before, were important to the conduct of the test and helped to identify specific problem areas and potential product improvements, they provided very little upon which to base even a preliminary evaluation of the feasibility of the overall concepts or services being tested. In this regard the statistics compiled by DDC, and in a few cases the test participants, were much more valuable.
B. User Evaluation

Of the 40 users participating in the test, 35 returned completed test evaluation forms to DDC. These completed forms were used as the primary basis for determining the users' analyses (see appendix H). The major results of the users' analyses are summarized briefly below:

**General**

a. Automatic services were preferable to demand service.

b. The length of time allotted prior to test implementation was inadequate for local user orientation or acquisition of microfiche equipment.

c. The three-month test was too short for users to make a comprehensive evaluation. (Several users, for example, were able to implement the program with only a small segment of their organization and were therefore unable to project the impact of such a program on their organization.)

d. The vast majority of users requested continuation of the test services.

**Automatic Bibliographies**

a. Three users (with a total of 16 Automatic Bibliography profiles) received this service during the test, and each used them as an adjunct to the GAB service.

b. Only one of the 16 Automatic Bibliography profiles required a major change during the test period.

**Group Announcement Bulletins**

a. Use of the COSATI subject categories for profiling proved adequate for two thirds of the users.

b. GABs were generally available to individual users two days after receipt by their library.

c. The user's handling costs were generally higher for GABs than for TABs.

d. GABs were, on the whole, acceptable as an announcement medium, but not as a reference tool.

e. TABs were preferred to GABs, overall.

**Automatic Magnetic Tapes**

Because of the aforementioned delay in implementation of this test service none of the users receiving it had had sufficient experience with it to evaluate it.
Automatic Documents

a. Use of COSATI subject category profiles for document selection was deemed adequate by about two thirds of the test participants.

b. For the large number of test users receiving both GAB and ADD service, the time span between the receipt of their GABs and the corresponding full-text documents (on microfiche) varied from 1-29 calendar days (see figure 9). (This factor unfavorably influenced the overall user reaction.)

c. The average time required to satisfy local users' requests for full-text copies averaged two calendar days under the automatic services program as opposed to ten calendar days under the conventional demand request processing.

d. The reaction to microfiche in lieu of hard copy was marginally favorable, although hard copy was still preferred by the scientists and engineers.

The test participants' responses via the user feedback sheets and evaluation forms, and their comments during a summary workshop held at DDC upon the completion of the ASP test, clearly indicated a general acceptance of the concept of automatic services.

C. Summary Evaluation

The evaluation of the test was based on two major considerations: (a) validating the feasibility of the concept, and (b) determining the economic and operational considerations involved.

Feasibility Validation

I. Selective Announcement Services

Based on the test results, the COSATI Subject Categories appeared from a user's point of view to provide a sound basis for profile structuring. Since all DDC users are accustomed to this categorization scheme, they could translate their requirements into those terms with little assistance from DDC. In use, profiles of COSATI Subject Categories seemed to offer a more definitive mechanism than TAB for local distribution, without the loss of peripheral vision which might be experienced with descriptor based profiles.

a. Automatic Bibliographies

During the test only three users received these products, and each of them also received GABs. Those three participants used the bibliographies primarily to accommodate specific needs of small groups of users within their organizations.
All three users found the Automatic Bibliographies highly acceptable largely for two reasons:

1. They provided users with more personalized and more specific products than the TAB or the GAB possibly could.

2. They required very little effort on the part of the user's local library, as the profiles required no modification subsequent to their initial minor adjustment and they could be routed directly to the end users.

But, these same two factors, which made the bibliographies so highly acceptable to the users, made them infeasible to DDC. The cost of producing and distributing such highly customized announcement bulletins, in the numbers which would be required for operational service, would be prohibitive. Furthermore, since most of the production cost was in computer time, it was a critical cost with little prospect for reduction.

b. Group Announcement Bulletins

The analyses of the feasibility of this product as a replacement for TAB revealed that DDC's TAB serves in two important capacities: (1) as an announcement medium, and (2) as a central reference tool. Therefore, for GAB service to replace the TAB it must perform effectively in both capacities.

Test findings indicated that while GAB service was more timely and effective than TAB for local announcement to scientists and engineers, it did not perform as well as TAB as a central reference tool.

c. Automatic Magnetic Tapes

This test service was initiated by providing interested users with experimental tapes. Differences in ADP equipment and lack of standards for tape distribution required experimentation by each organization's ADP specialists with the data provided by DDC to make it compatible with their ADP equipment and their own applications programs. As a result, by the time the test participants began receiving selective announcements via magnetic tape on a recurring basis, the test was drawing to a close.

This service concept is apparently feasible, but still requires testing and evaluation.

2. Automatic Document Distribution

A comparison of the demand request history with the ASP microfiche profile (figure 10) revealed that of the 34 test participants who received
CORRELATION OF USERS' DEMAND HISTORY AND ASP MICROFICHE PROFILE

NUMBER OF GROUPS PRESENT IN DEMAND HISTORY

NUMBER OF GROUPS IN ASP MICROFICHE PROFILE
microfiche during the study the profiles for 16 were more extensive under ADD than regular service provided under the Field-of-Interest Register. If this trend were valid for the total DDC user population, considerations of both relevancy and economics would require that a more definitive profile base be established. This subject is discussed further in the next section on Economic and Operational Considerations.

A major consideration in evaluating the feasibility of automatic dissemination of microfiche was user acceptance. Although there was not an overwhelming acceptance of microfiche in lieu of hard copy, half of the users who preferred hard copy gave as their reason the lack of sufficient microfiche viewing equipment. (Six of the 12 users who were not in favor of microfiche had an average of one reader for every 400-600 users; the 15 users favoring microfiche had an average of one reader for every 106 users.)

One of the influencing factors on the availability of equipment was the fact that many users were not familiar with the microfiche reader/reader-printer equipment available on the commercial market. DDC made an attempt to supply such information before and during the test. Even so, users experienced difficulty in obtaining equipment in time to use it during the test.

User acceptance was also affected by the late delivery of microfiche in comparison with delivery of GABs, so they were unable to test the expected advantage of having full text locally available to the scientists and engineers at the same time that they were notified of a document's existence. Once the microfiche were received, however, they were distributed locally within approximately two calendar days.

Other factors bearing significantly on the feasibility of automatic distribution of microfiche are: (a) the difficulties in handling classified microfiche, (b) the form of microfiche (positive or negative) provided, and (c) the impact of charges for hard copy documents. These factors had not been tested to determine their overall effect on this program.

Economic and Operational Considerations

1. Selective Announcement Services

DDC operational considerations included the necessity for revisions to the computer programs used in processing input data for the selection of citations to appear in each subject group. Printing, distribution, and handling costs were the other factors to be determined after refinements were made to the GABs. Successful completion of the processes tested would be required before true costs could be determined.
Unless the printing, distribution, and handling costs could be reduced significantly from what they were during the test, the GAB service would have to be rated as economically impractical.

2. **Automatic Document Distribution**

During the test period, 170,000 microfiche (for distribution to 34 test participants) were produced on contract at a cost of $.09 per sheet. These production costs could not be extrapolated to the total DDC user population, however, until the number of DDC users desiring the service was determined.

Another factor in the determination of costs for microfiche production was the user profile. As indicated in the User Feedback portion of this report, there were significant changes to the user profiles. Test experience indicated that the scope of subject profiles upon which microfiche distribution was based lay between: (1) the scope of the user's authorized need-to-know, and (2) the scope of report demand experience (compare figures 10 and 11). Additional information would be needed to establish a firm planning factor.

In addition, implementation of the user charge program could spur more user organizations to acquire microfiche reader/reader-printer equipment.

All of the above variables needed to be established for the test participants as a basis for planning and proceeding with an operational expansion of automatic microfiche service to other users.

In an attempt to determine if a significant decrease in DDC demand services would result from ADD service, the test participants' demand requests for the three-month period prior to the test were compared to their demand requests during the three-month test. The results of the comparison were inconclusive, however, for some of the same reasons indicated above. In addition, many users indicated that they would need to develop a microfiche collection covering a larger and longer span of newly issued reports before a significant reduction in demand services could be achieved. While an analysis of demand requests indicates that better than 75 percent of the technical reports requested from DDC are less than three years old, it would still have been highly speculative to estimate the cost impacts of automatic distribution in the then-prevailing environment of free DDC distribution, and even more uncertain with regard to the situation which would prevail after user charges were initiated.

To summarize, while no hard conclusions could be reached regarding the economic and operational aspects of automatic services, the feasibility and user acceptance of the concept were sufficiently proven to justify the design and conduct of an operational test.
CORRELATION OF USER'S FOIR AND ASP MICROFICHE PROFILE

NUMBER OF COSATI GROUPS IN USER'S MICROFICHE PROFILE
VII. REDESIGN

After the ASP test had been concluded, DDC began modifying the automatic services, where test experience or economics dictated, and began designing a new operational test to determine the economic feasibility of each of the automatic services. (During this redesign phase the ASP test participants continued to receive the automatic services.)

A. Product Modifications

Selective Announcement Services

Since the cost of providing the Automatic Bibliographies had already been determined to be prohibitive, and since they were no longer needed as a control factor for profiling techniques, they were discontinued. (Those test participants who wished to continue receiving service of this type were added to DDC's limited Current Awareness Bibliography program.)

The GAB service was continued in essentially the same form, although slight changes in the processing flow and the appearance of the GABs were made.

The AMID service was changed significantly, however. Instead of selecting and recording on a user's magnetic tape only those announcements assigned to COSATI Subject Categories within that user's preestablished profile, DDC prepared a single master tape containing all of the announcements to appear in the corresponding TAB Issue (in AD Number sequence). A copy of this entire tape was then made for each user receiving the service. This single change eliminated most of the technical and economic problems which had previously caused concern over this service. At the same time it enabled DDC to provide a slightly more effective service with much more efficiency.

Automatic Document Distribution

Several changes were made in the ADD service, the most important one being the switch from COSATI Subject Category profiles to search-term profiles as the basis for selecting documents of potential interest to each user. This switch was prompted by several factors uncovered during the preliminary test, but all of them related to the need for a more precise mechanism of document need prediction and the concomitant production economy which it would make possible.

The other major change to the ADD service was the switch from contractor production to in-house production of the required microfiches. Such factors as production control, reproduction work loads and costs, and
quality control entered into this decision, but the decisive factor was
the need to increase the timeliness of the service and along with that
the effectiveness of the GAB service as well as the ADD service for the
large number of test participants receiving both.

There were other changes to the processing procedures connected with
the ADD service such as changes in work flow and "need-to-know" valida-
tion, but they were relatively minor and, from the user's viewpoint,
had no effect on the service.

B. Test Redesign

With the exception of the few changes in work flow and processing
already mentioned in connection with product modifications, the production
processing and test conduct were little changed from the preliminary
test.

The designation, Automatic Services and Products, was dropped and the
program renamed Selective Documentation Services, but most of the other
changes were in the scope and control of the test and the methods of
evaluation. Because the test services to the original test community
were continued without interruption following the preliminary test,
and because the changes required in preparation for the extended test
were put into effect as they were ready, most test participants were
unaware of the extended test.

Unlike the preliminary test, the Selective Documentation Services
test spanned a full year. Some of the original test participants withdrew
from the test, but a relatively balanced test community was maintained
by the addition of other users. The resulting test community is presented
in appendix I.

DDC established control curves for the various documentation service
costs against which the test services costs could be compared throughout
the test. An evaluation form keyed to the revalidation of user acceptability
of test services and the comparative user costs and benefits of automatic
vs. demand services was prepared and sent to the users late in the test.
VII. TEST, ANALYSES, AND CONCLUSIONS

The Selective Documentation Services test and the ensuing analyses were directed toward determining the feasibility of each of the automatic services by: (a) validating their acceptability to users, (b) ascertaining their production and dissemination costs, and (c) determining, when appropriate, the requirements for economically providing these services to DDC's users.

A. Selective Announcement Services

Group Announcement Bulletins

The validation of user acceptability of the GAB service was based primarily on the test participants' responses to questionnaires. A copy of the questionnaire, on which the responses of the 31 participants submitting them have been summarized, is reproduced in appendix J. The responses to individual questions on the form were inconclusive at best. The following selected items demonstrate the divergence of opinions:

1. Of the 31 participants responding, ten experienced problems with packaging, shipment, or receipt of GABS.

2. While 58 percent of the participants maintained a central file of GABS, they generally found it far less satisfactory than TAB for central reference use.

3. When asked to rank GAB, CAST (see figure 12), TAB, and USGRDR (a journal of U.S. Government Research and Development Reports) as to which best fulfilled their current awareness requirements, ten participants ranked TAB first, eight ranked GAB first, five ranked CAST first, and three ranked USGRDR first. The average of all the rankings resulted in nearly the same sequence (1. TAB 2. GAB 3. USGRDR 4. CAST) indicating that, even for current awareness purposes, TAB served their needs better than GAB.

4. The most definite response came to the question: "Is TAB still needed?" All 31 respondents indicated it was.

5. If GAB were put on a subscription basis similar to CAST, 16 organizations said they would subscribe (although some qualified their response with comments to the effect that they would subscribe only if TAB were discontinued), but 11 organizations would not subscribe under any circumstances.

6. Sixteen respondents preferred the present GAB format, while 11 preferred the CAST format.
ELECTRO-TECHNOLOGY

A REVIEW OF CERAMIC THIN FILM TECHNOLOGY


Description: A review of the state of the art and potentials of ceramic thin film technology. This report can be read by those on the cutting edge of this new field and those on the fringe of ceramic technology.

AD-652390

MICROELECTRIC ENGINEERING, VOLUME 9
A. K. B. Celis, Ed. COMPLAINTS ON USING INSULATING ELECTRODE CIRCUITS

Applicability: The information in this book is intended for use in the microelectronic industry and is applicable to the design and manufacturing of microelectronic devices.

AD-655590

RESEARCH IN MICROINDURATIZATION USING ELECTRON-ACTIVATED MACHINING TECHNOLOGY

Final rept., Jan 68, Stanford Research Inst., Menlo Park, Ca. (U.S.) 49 pp. $20.00

Description: The report describes research on the use of electron-activated machining technology to machine microindurated materials. The research was conducted to develop a new process for machining microindurated materials.

AD-660761

DESIGN OF EQUIPMENT FOR MICROPHOTOGRAPHY

McMillan (U.S.S.R.) A method for the design of equipment for microphotography. The report describes the design of equipment for microphotography and includes information on the design of light sources, filters, and other components.

AD-660681

INVESTIGATION OF RADIATION HARDENED CIRCUIT ELEMENTS

TRW Systems Radcheck, Beach Calif.

Description: The report describes the investigation of radiation hardened circuit elements and includes information on the design and testing of these elements.

AD-660584

ANNOUNCEMENTS IN SCIENCE AND TECHNOLOGY

ANNUAL MEETING OF THE ELECTROCHEMICAL SOCIETY

The annual meeting of the Electrochemical Society is scheduled for June 15-19, 1968, in Dallas, Texas. The meeting will include sessions on electrochemistry, corrosion, and other related topics.

AD-660584

VULNERABILITY EFFECTS IN SOLID-STATE DEVICES

The report describes the vulnerability effects in solid-state devices and includes information on the design and testing of these devices.

AD-660584

Figure 12

The figure shows a plot of the performance of a device as a function of temperature. The plot includes data for several different devices and shows the relationship between performance and temperature.
A more general and somewhat more conclusive evaluation of the GAB service can be ascertained from a gross analysis of user participation. Of the 48 users who participated in either the ASP test or the SOS test or both: 11 withdrew because for one reason or another the additional benefits they derived from the service did not offset their handling costs; six did not appreciate the service enough to complete and submit evaluation forms; and 11 of the 31 who completed and submitted evaluation forms responded negatively to all the key questions on them. Thus, the service seemed to have proven unsatisfactory for 58 percent of the users who received it.

DDC's costs of producing and disseminating the GABs leveled off at about $0.10 per TAB copy during the test. But since the number of GAB copies required by the test group leveled off at approximately 25,000 per TAB cycle, the cost of providing GAB service to the test group has averaged $2,500 a TAB cycle.

As can be seen from the curves in figure 13, there has been no decrease in either the TAB service or the demand bibliography service provided to the test group. In fact, their TAB service volume remained about the same throughout the test while that of the rest of DDC's user community declined, and their demand bibliography request rate increased faster than that of other DDC users.

The very fact that the user evaluations showed a widely divided response to the GAB service led to the general conclusion that in selective announcement services, as well as other information services, no single product can completely satisfy the requirements of all users. More specifically, the analyses of the test results led directly to the following conclusions:

1. The continued insistence of the overwhelming majority of test participants that TAB is still necessary indicates that GAB is not an adequate replacement for TAB. Instead, it provided a supplementary current-awareness service of value to a significant, but limited, portion of DDC's user community.

2. The test participants, in general, could not readily integrate the GAB service into their information services programs. Because of the prolific number of similar current-awareness services available from various sources, their integration into a viable local information services program is one of the biggest problems currently facing user organizations.

3. DDC's costs of providing GAB service, plus the added handling and distribution costs incurred by the user organizations, are not balanced, in most cases, by the additional benefits derived from their use.
Automatic Magnetic Tapes

The validation of user acceptability of the AMTD service was based, once again, upon the test participants' responses to questionnaires. Of 22 participants queried, only 15 responded, thereby limiting the analysis of the service's use. A copy of the questionnaire, on which the responses of the 15 participants submitting them have been summarized, is reproduced in appendix K. The following selected items demonstrate acceptability of the AMTD service:

1. Eight organizations used the DDC service as a production interface to their local information programs. An average of 1,100 users were provided further information by each of these local automated information systems, representing a total of approximately 9,000 individual users who had access to the announcement media provided through the AMTD service. (Thirteen respondents agreed, however, that the AMTD service would not eliminate the need for DDC's published TAB.)

2. If the AMTD service were put on a subscription basis, six organizations indicated they would subscribe; however, four additional organizations indicated they would subscribe if the service was customized.

3. Eight organizations indicated that having TAB citations in a machinable form was the most significant factor in their decision to use DDC tapes.

4. Some organizations reported that the cost of processing AMTD tapes was outweighed by the increased service to the scientists and engineers and by the man-hours saved as a result of local selective document announcement publications such as TAB and USGRDR.

5. Generally, actual cost figures were not provided, but one organization did report a cost savings ($1,000 per TAB cycle) through elimination of a biweekly input keypunch and conversion effort.

A general evaluation resulted in the conclusion that the DDC AMTD service would be valuable to those organizations operating information systems on large-scale computers. An immediate cost saving will be realized where DDC-supplied magnetic tapes are used to replace present input keystroking of TAB data. The service would be of little value to an organization with a limited programming staff or one that services a small number of researchers, however, since the costs of programming and processing would be prohibitive.

DDC's costs for production and dissemination of AMTD will vary in relation to the number of service users. Figure 14 is representative of actual cost figures developed to support the establishment of an annual subscription fee. Figure 15 graphically depicts AMTD costs trends. The cost of providing both recurring service and test tapes averaged approximately $40 per user.
The curves in figure 16 reflect the decrease in bibliographic service of the test participants. It is assumed that the time delay to decrease was because of the time required for programming and experimentation on the part of the users prior to operational implementation.

The analysis of the test results led to the following conclusions.

1. The two years' experience promoted effective technical communications, particularly with large DDC users.

2. Recurring tape service to qualified organizations in support of local technical and management information systems is economically feasible.

B. Automatic Document Distribution

A general appraisal of the user acceptability of ADD service was easy to come by. Judging from the number of requests DDC received for this unpublicized test service, test participants must have found it to be worth passing the word about.

A more reliable and more detailed evaluation of the acceptability of ADD service to users was obtained from evaluation forms completed by all test participants. A sample of the evaluation form, with the responses summarized on it, is presented in appendix. Some of the most significant findings were:

1. Forty percent of the participants reported that they still order unclassified/limited and classified reports because their demand is not being completely satisfied by the ADD service.

2. In fifty percent of the responses, the demand-request rate for microfiche is the same as it was prior to the establishment of automatic services.

3. Fifty-seven percent of the requests that are processed by the participants' libraries for local Scientific and Technical Information (STINFO) users are filled in-house as a result of the ADD program. Forty-three percent of the requests from these users are forwarded to DDC. (This latter figure is so high because all unclassified/unlimited reports must be requested as they are not included in the ADD program.)

4. Participants reported an average of 15% individual STINFO users to each microfiche viewing unit, a considerably better ratio than that found during the preliminary test (and 9 users have additional equipment on order).

5. Unfavorable reactions to the use of microfiche included lack of reader portability, eyestrain, inability to refer simultaneously to various sections of a report, and poor quality microfiche copies.
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A detailed analysis of DDC's costs of providing ADD service was undertaken for the purposes of: (a) comparing the costs of providing ADD service (supplemented with demand service) with the costs of providing demand service alone, and (b) determining the portion of DDC's user population to which ADD service could be economically extended.

The basic approach to this analysis was quite simple: the costs of supplying the ADD test group with documents through demand service alone (during calendar year 1967) were determined and compared with the costs of supplying them with documents through ADD service, supplemented with demand service as needed (during calendar years 1968 and 1969).

Procedures necessary to apply the proper controls for this approach were a bit more involved.

a. Unit cost figures, which had to be calculated from a work function cost basis, were found to be $1.31 per report copy for demand service and $0.36 per report copy for ADD service. This difference in unit cost figures results largely from two factors: (1) the wholesale processing possible with ADD as opposed to the individual item processing necessary with demand service, and (2) the exclusion of expensive hard copy reproduction processing from ADD service, while it constitutes 20-30 percent of demand service.

b. The sizable volume of documents not presently included in the ADD service (unclassified/unlimited reports, and reports containing restricted data) had to also be excluded from the demand-service-volume profile of the total DDC user population (the control group). The resulting curve appears in the upper portion of figure 17.

c. The demand volume and corresponding total document service cost profiles of the total test group and three subsets of it (figures 17, 18, 19, and 20) were adjusted to reflect the changes in the demand-volume profile of the control group over the same time period.

d. All of the volume and cost profiles were smoothed in order to: (a) eliminate the highly erratic profile shifts caused by the wide variance in the numbers of document announcements per TAB cycle, and (b) facilitate visual comparison.

A glance at the volume profiles shows that, for the total test group and all three of its major subsets, conversion to term profiles reduced the ADD service volumes significantly, much more than enough to offset the concomitant increase in demand-service volumes.

Study of the cost profiles in the same figures presents an even more revealing picture. The cost profile in figure 17 indicates that conversion to term profiles reduced the total document service cost for the average user of the test group to the pretest level. The same cost
DOCUMENT SERVICE VOLUMES AND COSTS
(SMALL USERS)

Figure 18

[Graph depicting document service volumes and costs for small users, with years 1967 to 1969 on the x-axis and volume and cost on the y-axis.]
DOCUMENT SERVICE VOLUMES AND COSTS
(MEDIUM USERS)

Figure 15

[Graph showing document service volumes and costs for medium users over the years 1967 to 1969, with specific data points and labels for total document service costs and demand volume.]
curves for the three major subsets of the test group (figures 18, 19, and 20), however, clearly show that the favorable cost profile for the total test group (figure 17) is attributable solely to the reduction in the large users' total document service costs, as the costs of providing document services to both the medium and small user subsets, while down from the preconversion cost levels, remained much higher than the pretest levels.

The chart in figure 21 summarizes the information contained in figures 18, 19, and 20. From this chart the annual cost increase or decrease for each of the three major subsets of users can be read out by comparing the pair of vertical cost lines for each user subset.

By plotting the annual document request rates versus the annual document service cost savings (and losses) for the total test group, the three major subsets of it, and eight minor subsets of it, a curve of the cost savings through ADD (figure 22) was constructed. Although this curve summarizes the results of the cost analysis quite well, the annual document request rates used in its construction include only documents eligible for ADD (only classified reports and unclassified reports bearing limitations 1 and 2), and hence it cannot be used for projecting the results to an expanded test group.

To enable projection of the test results to an expanded test group the curve in figure 23 was constructed in a similar manner, but this time the total annual document request rates (for all AD documents) for each of the eight minor test group subsets were used while the cost savings or losses remained the same as on the previous chart (since ADD will have no effect on the cost of supplying the additional documents). From this curve it can be seen that DDC can probably save money by offering ADD service to any user requesting 5,400 or more documents per year.

In summary, ADD service would enable DDC user libraries to be more responsive to their local user communities, increasing numbers of which are finding microfiche acceptable. The lower unit cost of ADD service, combined with the resulting reduction in demand service, would seem to make it economically feasible, at least for large, high-volume users.
Figure 23

COST SAVINGS THROUGH AD

TOTAL DOCUMENT SERVICE COST SAVINGS (IN THOUSANDS OF DOLLARS PER USER PER ANNUM)
IX. SUMMARY AND FUTURE PLANS

For clarity's sake each of the test services in the SDS program has been reported on separately throughout this report. Unfortunately, this treatment may have created the impression that each of the services was tested and evaluated independently. Although this would have been possible, it was not the case. Even though each service could stand or fall on its merits without severely affecting any of the others, they were conceived, planned, tested, and evaluated as complementary parts of an overall program.

While the Selective Documentation Services are once again treated separately, in this final section, their interrelationships have been taken into account in the formulation of the following plans.

A. Selective Announcement Services

Generally speaking the Selective Announcement Services were found to be less desirable, less effective, and less economical than Automatic Document Distribution, but there was a wide variance among the three different announcement services.

**Automatic Bibliography Service**

While this service was highly effective for those few users who received it, the results of the preliminary test convinced DDC that, within the present state of the art, such highly customized announcement services cannot be economically provided on a "wholesale" basis. For the present at least such services must remain within the domains of local libraries and information centers.

The Automatic Bibliography Service proved so costly to DDC and the potential demand for it was so limited that it was discontinued after the preliminary test. One of the aspects of the service that contributed heavily to its effectiveness (the use of search term profiles for item selection) was retained and further tested, however, in the redesigned Automatic Document Distribution Service.

**Group Announcement Bulletin Service**

The experience with the GABs was the most disheartening aspect of the entire SDS test. The dissatisfaction of many test participants was not as disconcerting as the fact that, on the whole, they reported little in the way of additional benefits from this rather costly service. Faced with these results and the increasing emphasis on economy within DoD, DDC had no choice other than to discontinue the service. Thus, the GAB service was discontinued in mid-1970, amidst concerned criticism from those few test participants who had enthusiastically and effectively employed the service.
Automatic Magnetic Tape Dissemination Service

Of the three Selective Announcement Services tested, the AMTD service, even with an extremely limited community of prospective users, demonstrated the greatest potential as an operational service. The service could be economically provided by DDC, yet could be a very effective and very valuable service for those organizations operating large-scale internal information systems.

Based on the results of the test and analyses of production costs, DDC is now offering the AMTD service on a subscription basis. The subscription fee is currently set at $1,000 per year, but will be subject to annual revision as more users subscribe enabling reductions in unit costs.

Each TAB cycle, shortly before the publication of the TAB, subscribers to the AMTD service are provided with a Confidential magnetic tape containing citations to all of the latest DDC accessions. This includes not only the AD reports announced in the corresponding TAB, but also those announced in the associated USGRDR. As all of the AMTD tapes are—like TAB—Confidential, subscribers are responsible for maintaining their security in accordance with existing regulations. Thus, they must update accumulated data stores as indicated in issues of "Notice to Holders of TAB" and TAB sections entitled, "Notification of Changes in Classification, Distribution, and Availability."

The United States of America Standards Institute (USASI) Standard (239.2-1968) entitled, "A Format for Bibliographic Information Interchange on Magnetic Tape" has been adopted for the AMTD service to ensure compatibility with existing information systems. The AMTD tapes are thus provided in an IBM-compatible format on 9-track tape (odd-parity) recorded at a density of 800 characters per inch (cpi), with a nonreturn-to-zero indicator. They are also available, however, on 7-track tape with a density of either 556 or 800 cpi. Regardless of which tape configuration a subscriber chooses, the data blocks will be 2,046 characters in length.

At the present time subscribers are supplying their own blank tapes, which are recycled. Beginning in January 1971, however, the AMTD tapes will be nonreturnable "mini-reels" in 400-foot or 600-foot lengths.

Any registered DDC user-organization which regularly receives TAB and has a computer facility clearance of Confidential or higher may subscribe to the AMTD service. DDC recommends, though, that before subscribing to the regular service, the user request an initial test tape package from DDC. This package, assembled for the express purpose of facilitating the user's development of an information system using the AMTD tapes, is available to potential subscribers at cost ($45).
To provide further assistance to potential AMTD subscribers, DDC plans to make available, early in calendar year 1972, a computer program (in COBOL) for an AM system based on the AMTD service.

With the implementation of the AMTD service DDC has acquired the capability of offering selective announcement services to large user organizations, but the failure of the GAB service still leaves us without the capability of providing a comparable service to our many medium-sized users. We have not yet given up, though. Through our Selective Announcement Services project we are still hoping to develop an announcement service capable of filling this gap.

B. Automatic Document Distribution

Like AMTD service ADD service has proven effective. But, unlike AMTD service it seems to be effective for medium-sized users as well as large ones. This creates an economic problem in that, at least for the present, only high-volume users can be provided with ADD service without increasing the cost of servicing them.

Recalling the upper portions of the curves in figures 22 and 23, the larger the user (i.e. the greater his document requirements), the more economical the ADD service was. This result could have been postulated strictly on the basis of probability for the larger the number of reports one attempts to select from a finite set the higher his selection accuracy should become. Thus, by the very nature of the situation the document requirements of larger users will always be more predictable and hence more economical to fulfill.

DDC could, even now, offer ADD service to all users on a subscription basis, as is being done with AMTD service. Or DDC could economically provide ADD service to any user, so long as that user's ADD and residual demand volumes did not exceed the volumes which would satisfy the following equation:

\[
\text{PRE-ADD UNIT COST \times \text{DEMAND} = \text{ADD UNIT COST \times ADD \text{ VOLUME}} + \text{RESIDUAL UNIT COST \times \text{DEMAND UNIT COST \times \text{VOLUME}}}}
\]

Either of these two approaches could be pursued at the present time using present report selection methods, but regardless of whether users were paying for the reports received or were limited in the numbers of reports they could receive, they (particularly the medium-sized users) would undoubtedly press for more accurate prediction techniques. DDC decided, therefore, to extend the service, in mid-1970 to only that group of users whose past document demand rate has been high enough to make ADD service economically feasible with present selection techniques. At the same time multidirectional efforts to reduce the cost of the service, and thus permit further extension of it later, are being pursued.

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One of these cost reduction attempts is directed toward the basic need to improve the predictive accuracy of the search-term profiles. The users to whom the service is currently being extended present a ready test group for more definitive profiles. Prior to offering these users ADD service, DDC extracted from its request history files the AD numbers of all of the reports each of these users had recently requested from DDC. All of the descriptors assigned to the reports requested by each user were then extracted and tabulated by frequency. After adjusting the frequencies of descriptor occurrence for differences in user request volume, a significant occurrence figure was determined for each user. All of those descriptors with an occurrence equal to or greater than the significant occurrence figure for that particular user were then compiled into a search-term profile. These profiles were then sent along with the letters offering the service to each of those users.

The numbers and types of changes which the users make in these computer-compiled profiles, and even more important, comparison of their ADD and demand service rates over the next several months with their prior service rates should prove very interesting.

Another attempt at cost reduction will focus upon a simulated test of expanding the document base of ADD service to include unclassified, unlimited reports. This simulation should indicate that such an expansion would produce additional cost savings, at least in the cases of those users falling in the upper portions of the curves in figures 22 and 23. What the increased microfiche work loads would be and whether DDC could handle them are more difficult to predict, however, and are the real reasons why the simulation is required.
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| Total           | 16  | 3701 | 249  | 32482 | 8  | 3201 | 77709 |
TOTAL RESPONSES - 35

APPENDIX N

PART I - PARTICIPANT INFORMATION

Each participant is requested to complete Part I and either or both
Parts II and III depending on those products received during the test.
The form should be covered with a cover sheet selected on the basis of
the test cycles each participant has covered in the evaluation.

1. Organization Data

NAME OF ORGANIZATION:

ADDRESS:

ORGANIZATION UNIT AND SYMBOL:

DATE PREPARED: ____________  BY: ___________________________

TELEPHONE NO. ______________ ASP SERVICE CODE: ___________

2. Participant’s Equipment Analysis

a. During the test period how many of the following were utilized?

<table>
<thead>
<tr>
<th>Readers</th>
<th>Reader/Reproducer</th>
<th>Fiche-to-Fiche Duplicator</th>
<th>Fiche-to-Hard Copy Reproduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

b. Does your test experience indicate need for change in number or
types of equipment for full operational implementation of ASP Program?

24 Yes  11 No

(Check applicable block for each type of equipment)

Increase Decrease No Change

Readers

Reader/Reproducer

Fiche to Fiche Duplicator

Fiche to Hard Copy Reproduction

3. Information and Library Services

a. Do you maintain a single location for information service?

18 Yes  17 No
b. If no, how many subsidiary information service outlets do you maintain?  **Varied from 1-16**

c. How many of these outlets did you use in the ASP Test Program?  **Varied from 1-19**

d. How many scientists, engineers, etc., comprise your user community?  **Varied from 12-11,467**

e. How many of this user community were included in the Test?  **Varied from 10-5000**

---

### Part I - Page 2

A. Please check the applicable kinds of major activities in which your organization is engaged.

<table>
<thead>
<tr>
<th>Category</th>
<th>Basic Research</th>
<th>Advanced Research</th>
<th>Applied Research</th>
<th>Management &amp; Support</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development</td>
<td>27</td>
<td>26</td>
<td>24</td>
<td>17</td>
<td>2</td>
</tr>
<tr>
<td>Engineering</td>
<td>23</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Systems Development</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
DOC AUTOMATIC SERVICES AND PRODUCTS

TEST EVALUATION ANALYSIS

PART II -- MICROFICHE

1. How is the original microfiche filed:

<table>
<thead>
<tr>
<th>27 AD Number</th>
<th>1 Source</th>
<th>Other Subject File</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Report Number</td>
<td>2 Internal Accession No.</td>
<td>1</td>
</tr>
</tbody>
</table>

2. Utilization and Reproduction Statistics (related only to reports received on microfiche under ASP)

<table>
<thead>
<tr>
<th>No. of Actions</th>
</tr>
</thead>
</table>

a. Reading:

(1) Number of reports viewed (Count each time the same report is requested) **Unavailable**

(2) Number of users viewing these reports (Count each visit as an individual action) **Unavailable**

b. Read/Print:

(1) Number of reports from which selected pages were printed **Unavailable**

(2) Number of selected pages reproduced **Unavailable**

c. Fiche-to-Fiche:

(1) Number of reports duplicated **Unavailable**

(2) Number of copies of each duplicate microfiche prepared **Unavailable**

d. Hard Copy Enlargement:

(1) Number of reports enlarged **Unavailable**

(2) Number of copies of reports reproduced **Unavailable**
e. Estimate the average time span (in calendar days) to satisfy local user needs by:

(1) Conventional request process
   - Hard Copy: Avg 10.4 days/avg
   - Microfiche: Avg 10.3 days/avg

(2) Automatic Distribution
   - Avg 2.1 days/avg

*(The time span should begin with the initiation of the request by the user and end when he receives the document)*

f. Manhours utilized for local information processing and maintenance to service a request for report copy (base calculations on two months volume and experience):

(1) In present conventional request service from DDC
   (include manhours for preparing and transmitting Form 1, maintaining suspense records of orders, receiving and re-routing report copy from DDC, follow-up action when required, etc.).

(2) In proposed automatic microfiche distribution service from DDC
   (include manhours for receiving, checking, shelving microfiche, pulling request items for viewing or other action, refileing, etc.)

g. How many requests were made to DDC for unclassified-limited and classified reports announced during the test period for documents not covered by your ASP Field/Group profile?

<table>
<thead>
<tr>
<th>Report Type</th>
<th>Avg</th>
<th>No. of Replies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microfiche</td>
<td>64.0</td>
<td>7</td>
</tr>
<tr>
<td>Hard Copy</td>
<td>278.6</td>
<td>19</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>26</td>
</tr>
</tbody>
</table>

3. Were microfiche duplicates made for additional files? 
   - Yes 24
   - No 1
   - Blank 1

If yes, specify number and kind of additional files: 

_________________________
20. 

A. EVALUATION

1. What was the reaction of your user community to microfiche in lieu of hard copy?
   - 15 Favorable
   - 12 Unfavorable
   - 2 Blank
   If unfavorable, please explain.

2. Did you experience any problems relative to the packaging, shipment, or receipt of the microfiche?
   - 21 Yes
   - 8 No
   - 1 Blank
   If yes, please explain:

3. Have you had any difficulties in filing the microfiche or in maintaining the files?
   - 5 Yes
   - 25 No
   If yes, please explain:

4. Do you feel that the equipment commercially available is adequate for storing, handling, reading, and reproducing microfiche?
   - 14 Yes
   - 15 No
   - 2 Blank
   If no, please outline what other equipment is considered needed.

5. Is your Field/Group profile structure for microfiche adequate for your needs?
   - 19 Yes
   - 10 No
   If no, please indicate what changes you would like made.
### DISTRIBUTION AND FILING

(Please check "Yes" or "No" or note as applicable)

<table>
<thead>
<tr>
<th></th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Do you reproduce copies of the GABs?</td>
<td>7</td>
<td>26</td>
</tr>
<tr>
<td>b. If so, how many copies per issue of GABs?</td>
<td>Avg 11</td>
<td></td>
</tr>
<tr>
<td>c. Do you distribute the individual GABs to the users according to their Field/Group interests?</td>
<td>27</td>
<td>6</td>
</tr>
<tr>
<td>d. Have you found it necessary to fragment a GAB for distribution to your users?</td>
<td>8</td>
<td>24</td>
</tr>
<tr>
<td>e. Do you keep one set of GABs filed centrally for general use?</td>
<td>25</td>
<td>7</td>
</tr>
<tr>
<td>f. Did you wait to distribute GABs until you received the fiches?</td>
<td>4</td>
<td>21</td>
</tr>
<tr>
<td>g. On the average, how many days after you receive it, is the announcement media available to your users?</td>
<td>AVG 2.0 days</td>
<td></td>
</tr>
</tbody>
</table>

(For additional comments please use the space provided at the end of this section)

### UTILIZATION

(Please check "Yes" or "No" or note as applicable)

<table>
<thead>
<tr>
<th></th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Do you compile your own reference files of the entries in your fields of interest?</td>
<td>10</td>
<td>16</td>
</tr>
<tr>
<td>b. Is your Field/Group profile structure for GABs adequate for your needs?</td>
<td>21</td>
<td>9</td>
</tr>
<tr>
<td>c. Does your subject profile change more often than every 3 months?</td>
<td>3</td>
<td>29</td>
</tr>
<tr>
<td>d. Do you find all indexes useful?</td>
<td>1-BLANK</td>
<td>25</td>
</tr>
<tr>
<td>------------</td>
<td>-------------</td>
<td></td>
</tr>
<tr>
<td>a. List the indexes in their order of usefulness to you:</td>
<td>b. 2-Blank</td>
<td></td>
</tr>
<tr>
<td>Rept. No. 6 Subj. 5 Cor. Auth. 3 Contract 3</td>
<td>c. 2-Blank</td>
<td></td>
</tr>
<tr>
<td>Auth 1 Rpt. Sres 1</td>
<td>d. 2-Blank</td>
<td></td>
</tr>
<tr>
<td>e. Would you change the format of the indexes?</td>
<td>f. Is the present frequency of issuing indexes sufficiently useful for you? (Same as present TAB)</td>
<td></td>
</tr>
<tr>
<td>g. List the ones you would change:</td>
<td>h. Are the indexes cumulated frequently enough for you?</td>
<td></td>
</tr>
<tr>
<td>1._________ 2._________ 3._________ 4._________</td>
<td>If no, please suggest what changes you would like to see made:</td>
<td></td>
</tr>
<tr>
<td>5._________ 6._________ 7._________ 8._________</td>
<td></td>
<td></td>
</tr>
<tr>
<td>j. What other announcement tools would you find useful?</td>
<td>(Please list)</td>
<td></td>
</tr>
</tbody>
</table>
3. FORMAT OF GAB
(Please mark the appropriate block to indicate your preference in format. If you have no preference, please mark "NO PREFERENCE")

a. Is the present format acceptable?
   - Yes 8
   - No 2
   - No Preference 2

(b) 6-BLANK

b. Bound ______ Loose-leaf ______ No Preference ______

c. Text arrangement:
   - Vertical ______ Horizontal (as is) ______
   - No Preference ______

   [Options not shown]

d. Items spaced as at present ______ More Compact ______ No Preference ______

(e) Which of the following bibliographic items would you like to see in the display first:
   - AD # ______
   - Title ______
   - Source ______
   - FIG assignments ______

   [Options not shown]

(f) Is the print size acceptable?
   - Yes 8
   - No 1
   - Blank 1

4. COSTS FOR HANDLING GAB
(Please supply the best estimates available in appropriate blocks)

a. Generally, would the costs to your organization increase or decrease with the use of GAB (instead of TAB) to obtain R&D information.
   - Decrease ______
   - Increase ______
   - Blank ______

b. Please compare your average manhours expended for using GAB and TAB, on the basis of one issue (shipment) of GAB and one issue of TAB (with the average normal number of copies you receive).

   [Options not shown]
<table>
<thead>
<tr>
<th></th>
<th>TAB</th>
<th>GAB</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Re-routing because of too few copies</td>
<td>Professional personnel (hrs)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Clerical personnel (hrs)</td>
<td></td>
</tr>
<tr>
<td>3. Reproduction because of too few copies</td>
<td>Professional personnel (hrs)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Clerical personnel (hrs)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Supplies (in dollars)</td>
<td></td>
</tr>
<tr>
<td>4. Maintaining up-to-date routing lists</td>
<td>Professional personnel (hrs)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Clerical personnel (hrs)</td>
<td></td>
</tr>
<tr>
<td>5. Maintaining user request file (for documents)</td>
<td>Professional personnel (hrs)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Clerical personnel (hrs)</td>
<td></td>
</tr>
<tr>
<td>6. Maintaining central file of announcement medium</td>
<td>Professional personnel (hrs)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Clerical personnel (hrs)</td>
<td></td>
</tr>
<tr>
<td>7. Disposition of excess copies</td>
<td>Professional personnel (hrs)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Clerical personnel (hrs)</td>
<td></td>
</tr>
<tr>
<td>8. Maintaining security records and controls</td>
<td>Professional personnel (hrs)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Clerical personnel (hrs)</td>
<td></td>
</tr>
<tr>
<td>9. Other (Please define)</td>
<td>Professional personnel (hrs)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Clerical personnel (hrs)</td>
<td></td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
DDC AUTOMATIC SERVICES AND PRODUCTS
TEST EVALUATION ANALYSIS
PART IV - SERVICES

General

34 Replies

a. Which concept of service do you prefer?

22 Automatic  7 Demand  5 No Preference

b. Which announcement media do you prefer?

8 GAB  17 TAB  9 No Preference

c. Will you continue using ASP service after the test period?

29 Yes  5 No

d. Please give your assessment of the impact on information service resulting from ASP as compared to the present acquisition process.

34 Replies

e. Would you prefer your interest profile to be more definitive than the field and group structure?

19 Yes  22 No  Blank  2

If yes, explain:

__________________________
__________________________
__________________________

34 Replies

Please return to:

Defense Documentation Center
ATTN: DDC-D
Cameron Station
Alexandria, Virginia 22314

H-10
### USER POPULATION HANDBOOK

<table>
<thead>
<tr>
<th></th>
<th>ARMY</th>
<th>NAVY</th>
<th>AIR FORCE</th>
<th>JNT DOD</th>
<th>EDUC COST</th>
<th>INDUS CONTR</th>
<th>FED</th>
<th>GOVT W/ NASH</th>
<th>LINE TOTALS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HIGH-VOLUME USERS</strong></td>
<td>ADD</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>7</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>GAB</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>7</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>AMTD</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td>6</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>8</td>
<td>15</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td><strong>MEDIUM-VOLUME USERS</strong></td>
<td>ADD</td>
<td>5</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>6</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>GAB</td>
<td>6</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>AMTD</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td>31</td>
<td>36</td>
<td>32</td>
<td>5</td>
<td>53</td>
<td>195</td>
<td>16</td>
<td>1</td>
</tr>
<tr>
<td><strong>LOW-VOLUME USERS</strong></td>
<td>ADD</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>6</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>GAB</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>AMTD</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td>539</td>
<td>453</td>
<td>762</td>
<td>142</td>
<td>697</td>
<td>1,563</td>
<td>374</td>
<td>39</td>
</tr>
<tr>
<td><strong>TOTAL USERS</strong></td>
<td></td>
<td>576</td>
<td>603</td>
<td>793</td>
<td>148</td>
<td>759</td>
<td>1,803</td>
<td>394</td>
<td>31</td>
</tr>
</tbody>
</table>

**Note:** The table represents the distribution of users across different sectors with columns for ARMY, NAVY, AIR FORCE, JNT DOD, EDUC COST, INDUS CONTR, FED, GOVT W/ NASH, and LINE TOTALS.
GROUP ANNOUNCEMENT BULLETINS EVALUATION ANALYSIS

PART I - Organizational Data

Name of Organization: ____________________________________________

Address: ________________________________________________________

Date Prepared: ______________ By: ____________________

(Name and Title)

Telephone: ____________________ Automatic Services Code: _________

PART II - General Information

1. What is the total number of STINFO users in your organization?
   1,851 average, 8 - 6,696 range

2. Do you maintain a single location for information services?
   18 Yes  14 No

   If no, how many subsidiary information outlets do you maintain?
   4 average, 1-17 range

3. Do you produce an in-house current awareness bulletin of any type?
   29 Yes  2 No

   If yes, what report collections are included? Generally all they
   receive (9); frequently mentioned specifically were: primary distribution (9);
   in-house (11); DDC (12); NASA (11); AEC (6); CFSTI (2).

4. How are GAB's and other selective announcement services (CAST, FAST, SCAN)
   integrated and incorporated into your current awareness program? Disseminated according to user interest profiles (22); circulated
   through organization (5); kept in library (5); incorporated into in-house
   announcement bulletin (4); added to in-house announcement bulletin as
   supplement (2); integrated into computer-based SDI (1).
PART III - Reproduction and Distribution

1. Are you experiencing any problems relative to the packaging, shipment, or receipt of GAB's? Yes ___ No ___

   If yes, explain: Incorrect quantities (7); poor quality (2); shipment not all received at same time (2); missing shipment (1); GABs all out of sequence (1); sent to incomplete address (1).

2. Are you maintaining a central file for GAB's? Yes ___ No ___

   If yes, in what sequence are they filed?

   13 Major classification--Field/Group; minor classification--GAB Issue Number

   6 Major classification--GAB Issue Number; minor classification--Field/Group

   _ Other (Explain) ________________________________________________

3. Are you reproducing copies of the GAB's for automatic distribution? Yes ___ No ___

   If yes, by what process? Xerox copier (6); offset printing (2).

   How many copies per issue do you reproduce? 68 average of those reproducing 2-400 range of those reproducing

4. Are you distributing GAB copies by:

   6 routing via buckslip to organizational entities?

   5 routing via buckslip to interested personnel?

   13 direct routing to each user?

   5 other? (Explain) Disseminated according to profiles (2); incorporated into in-house announcement bulletin (2); circulation from user to user (1).

5. Complete the following table pertaining to the circulation of announcement media:
<table>
<thead>
<tr>
<th></th>
<th>GAB</th>
<th>CAS</th>
<th>TAB</th>
<th>USGDR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number Received</td>
<td>1-765</td>
<td>1-45</td>
<td>1-50</td>
<td>1-40</td>
</tr>
<tr>
<td></td>
<td>117</td>
<td>10</td>
<td>11</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>0-943</td>
<td>0-350</td>
<td>0-60</td>
<td>0-24</td>
</tr>
<tr>
<td></td>
<td>168</td>
<td>16</td>
<td>12</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>3-350</td>
<td>0-125</td>
<td>0-125</td>
<td>0-125</td>
</tr>
<tr>
<td>Number Circulated</td>
<td>2-14 da.</td>
<td>0-7 da.</td>
<td>0-21 da.</td>
<td>0-14 da.</td>
</tr>
<tr>
<td></td>
<td>8 days</td>
<td>2 days</td>
<td>8 days</td>
<td>4 days</td>
</tr>
<tr>
<td>Number of Distinct Organizational Entities Served</td>
<td>8-3000</td>
<td>0-750</td>
<td>30-1500</td>
<td>0-1600</td>
</tr>
<tr>
<td></td>
<td>383</td>
<td>119</td>
<td>306</td>
<td>338</td>
</tr>
<tr>
<td>Number of Persons Served</td>
<td>0-7 day</td>
<td>0-7 day</td>
<td>0-7 day</td>
<td>0-7 day</td>
</tr>
<tr>
<td></td>
<td>1 day</td>
<td>1.4 day</td>
<td>1 day</td>
<td>1 day</td>
</tr>
<tr>
<td>Average Circulation Time Per Person...</td>
<td>1-200</td>
<td>2-300</td>
<td>0</td>
<td>1340</td>
</tr>
<tr>
<td></td>
<td>83</td>
<td>21</td>
<td>140</td>
<td>36</td>
</tr>
<tr>
<td>Number of Document Requests Initiated by Circulation</td>
<td>8-First</td>
<td>5 First</td>
<td>10 Next</td>
<td>3-First</td>
</tr>
<tr>
<td>Rank (1, 2, 3 or 4) the services as to which best fulfill your current awareness requirements</td>
<td>2.2</td>
<td>2.9</td>
<td>2.1</td>
<td>2.5</td>
</tr>
</tbody>
</table>

(Give reasons for your rankings)

1. TAB is more convenient, but routing is hindered by classification.
2. GAB is effective when properly distributed, but rapidly shifting information requirements of end users make it hard to distribute effectively.
3. USGDR is comparable to TAB.
4. CAST is comparable to GAB.
5. While original intent of GAB production was to replace TAB, DDC's initial evaluation indicated that TAB is still required as a central reference tool. Is TAB still needed? 31 Yes 0 No

If yes, how is it used?

10 Central reference only
0 Circulation for current awareness only
17 Both circulation and central reference
4 Other (Explain) Additional uses mentioned were: verification of procurement information (2); basis for cataloging (1); decentralized reference service (1).

How many copies are required by your organization? 10.7 average

J-3 90.83
Would TAB in microfiche form be acceptable?  

Yes 6  No 24

If no, why not? Circulation would be impossible and use for reference would be too difficult (22); not enough equipment available (7); might create security problems (2).

PART IV - Evaluation

1. Do you have subscriptions for CAST (Clearinghouse Announcements in Science and Technology)?  

Yes 24  No 7

If yes, do you plan to renew your subscriptions?  

Yes 13  No 10

2. Does CAST serve adequately as a counterpart to GAB?  

Yes 14  No 9

Why, or why not? Yes, because it covers reports not in GAB (6); can be circulated to non-GAB users (1); but isn't used as much as GAB (6). No, because USGDR is adequate (3); the service charge limits its use (2); and it makes too many different places to look for reports (5).

3. If GAB were put on a subscription basis similar to CAST, would your organization subscribe?  

Yes 16  No 11

4. Would you prefer a CAST-type format, similar to the enclosed, instead of the present GAB format?  

Yes 16  No 11

Whichever format you prefer, do you have any modifications to suggest? Better typography and larger print (4); bigger, bolder type for AD Nos. (3), Field/Group assignments (1), titles (1), and distribution statements (1); more citations per sheet (1); no citations to limited reports (1); individual report citations printed on catalog card stock.

5. Do you subscribe to FAST (Fast Announcements in Science and Technology) published by OPSTI?  

Yes 14  No 16

If yes, do you find this type of announcement flyer useful?  

Yes 13  No 1
6. What benefits, if any, does your organization derive from TAB which could not be satisfied by GAB? TAB is more flexible, more compact, and easier to use (16); serves effectively as a central reference tool (15); needed for its broader coverage (13); necessary for in-house searches (8); easier to index with (8); contains necessary ordering information and classification changes (4); serves as an acquisitions and cataloging tool (2); unaffected by changing user needs (1); few, if any, benefits.

7. If GAB were limited to only citations for unclassified reports, what effect would this have on your organization? Effectiveness and usefulness of service would be greatly reduced (16); little or no effect, as long as TAB publication continues as at present (10); would have to use TAB service more (5); would further fragment information services (2); would have to begin using magnetic tape service (1); would be better, as we only use unclassified services (2).

8. Please give your assessment of the impact on your organization of the GAB program. GABs have increased the libraries' abilities to provide current awareness services to their users, whose interests have been increased (10); GABs have been appreciated by the recipients (4); GABs have worked fine in conjunction with the ADD service (if users see an announcement of interest they can immediately look at the full text report) and have helped make microfiche more acceptable (5); GABs have made users more selective in their document requests (2); GABs would be better if only the unclassified, unlimited were included (1); GABs were not nearly as effective as they would be with more correlation with CAST, FAST, SCAN, etc. (6); GABs are of little use, th. TAB is preferred (4); GABs would not be needed at all if TAB were unclassified (4); GABs aren't needed, as the ADD microfiche are circulated for current awareness (1); GABs never fulfilled their promise (1); GABs merely flood us with irrelevant paper (1); DDC should supply TABs and let the libraries do the library work.
GROUP ANNOUNCEMENT BULLETIN

FIELD 6/GROUP 1

BIOCHEMISTRY

Indicate the documents you want by checking the column alongside the desired citations, hardcopy (HC) and/or microfiche (MF). Then write your name and internal code in the spaces below, and forward the entire sheet to your in-house library.

NOTE: UNCLASSIFIED/UNLIMITED SAMPLE.

THE TITLES AND DESCRIPTORS CONTAINED IN THIS SAMPLE HAVE BEEN BLACKED OUT TO ENABLE PUBLIC RELEASE OF THIS DOCUMENT. THE RELEASE LIMITATION MARKINGS LEFT ON TO INDICATE FORMAT ARE NOT APPLICABLE TO THIS UNCLASSIFIED/UNLIMITED SAMPLE.
PART I. ORGANIZATION AND CONTACT INDIVIDUAL

Name and Address of Organization: ________________________________

WEC User Code: ______________ Telephone: ________________________

Contact Individual and Title: ______________________________________

PART II. ADP EQUIPMENT

Computer Capability? 14 Yes 0 No Current or Future? (No reply)

If yes, complete the following:

Make and Model: ________________________________________________

Memory Size: __________________________________________________

Tape Drives (No. & Type): _______________________________________

Estimated Date of Installation: ________________________________

PART III. YOUR SYSTEM SPECIFICATIONS:

Do you have document data in machine-readable format now? 9 Yes 4 No

If yes, complete the following: (No reply)

File Content:

__ Accession __ Title __ Other (Describe)
__ Source __ Author __ Descriptors __ Abstracts __

Storage Medium:

__ Punched Tape __ Drum
__ Punched Card __ Disc
__ Magnetic Tape __ Other 87
PART III. continued:

Approximate Number of Documents on File: 1,000 - 500,000

Frequency of File Use: 1 - 4 times weekly

PART IV. USE MADE OF DDC MAGNETIC TAPE:

What use (was/is) being made of DDC Magnetic Tape? (Please circle applicable entries)

Selective dissemination 9

Bibliographic Searches: 3

<table>
<thead>
<tr>
<th>Subject</th>
<th>Source</th>
<th>Report Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contract</td>
<td>Report Number</td>
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</table>

Indexes or Announcements 4
Document Control 1
Management Information 4
Other 1

PART V.

What factors resulted in your decision to use/not use the tapes provided:

Format 2 2 (No reply)
Data Representation 8
Other 5

PART VI.

What improvements would you desire?

Blocked records 2 Short reels 1 Other 4
Header/trailers 3 Format Change 1 4 (No reply)

PART VII.

As a result of tape data, have your bibliographic requests decreased?

2 Yes 6 No If yes, give approximate percentage

7 (No reply)
PART VII. continued:

Would the inclusion of Classified abstracts on the tape further reduce your bibliographic requests?  
4 Yes 5 No 6 (No reply)  

Have your document requests increased, decreased, or remained unchanged?  
5 2 6 (No reply)  

PART VIII.

How many personnel are provided service by your program? 1100 (Avk)  

PART IX.

Does the use of DDC's magnetic tape eliminate your need for DDC's published TAB?  
6 Yes 13 No 2 (No reply)  
If no, please explain:  

PART X.

Would you be willing to pay for this service?  
6 Yes 3 No 6 (No reply)  

Customized Tape Service?  
10 Yes 1 No 4 (No reply)  
Please explain:  

PART XI.

Do you combine DDC tape entries with other announcement services?  
7 Yes 5 No  
If yes, please list other inputs:  
3 (No reply)
PART XII.

What is your estimate of saving realized by use of DDC's tape as input. Please consider the cost of abstracting, indexing, keystroking, etc., when estimating this cost.

(The majority were unable to provide meaningful cost figures at this time.)
PART I - Organization Data

Name of Organization:______________________________

Address:________________________________________

Date Prepared:__________ By:_______________________

(Name and Title)

Telephone Number:__________ Automatic Services Code:__________

PART II - Equipment Analysis

1. How many of each of the following are available for use in this program?

   Average   25 Readers   4 Reader/  1.3 Fiche-to-fiche  1.9 Fiche-to-hard
              Reproducer     duplicator     copy reproduction

   2. Does your experience indicate a need for changes in the numbers
      or types of equipment for full operational implementation of automatic
      services program?  32 Yes   8 No   No reply 1

   Average  3. What is the ratio of STINFO users to microfiche viewing equipment
            in your organization? 151-1 (High 1060-1 Low 2-1) No reply 5

   4. What plans, if any, do you have for acquiring additional
      equipment?  14 users have no plans for acquiring additional equipment.  18
      users have future plans for expanding equipment.  9 users have equipment
      on order.

   5. Is microfiche equipment readily accessible to your STINFO users?

   Totals  34 Yes   5 No   No reply 2

   Please elaborate. 25 users report enough equipment available in library
   and most labs with portable equipment available.  11 users report a need
   for equipment.  5 no answers.
PART III - Usage Volume

Average.  
1. How many microfiche reports are received through automatic services per bimonthly TAB cycle?  449 No reply 2

2. How many unclassified/limited and classified reports are requested from UDC per bimonthly TAB cycle?

Average  
66 Microfiche  No reply 7
36 Hard Copy  No reply 7

3. Of those reports requested from DDC, how many (as nearly as you can tell) are requested because:

Average  
42 they fall outside the scope of your automatic services profile? No reply 9
29 they are desired in hard copy form instead of microfiche form? No reply 9
31 in-house reproduction or distribution of the centrally-filed microfiche is not feasible or desirable? No reply 9

4. Is your present demand request rate less than it was prior to automatic services?

Microfiche: 19 Yes 19 No No reply 3
Hard Copy: 23 Yes 15 No No reply 3

PART IV - Reproduction and Utilization

Totals  
1. Are your microfiche reports centrally filed? 36 Yes 5 No

If yes, how are they filed?

Totals  
38 AD Number 3 Report Number place.
2 Source 3 Internal Accession Number
1 Other (explain) 3

If no, how are they distributed?

Totals  
2. Are microfiche duplicates made for additional files? 16 Yes 25 No

If yes, specify the numbers and kinds of additional files:

L-2 0-92
Of these requests filled in-house, what percentages are:

- 60 % filled satisfactorily by viewing the file copy?
- 28 % filled by making a microfiche copy?
- 16 % filled by making a hard copy? No reply

PART V - Evaluation

1. What is the present reaction of your user community to microfiche in lieu of hard copy?
   - 24 Favorable
   - 17 Unfavorable

   If unfavorable, please explain: Lack of portability, eyestrain, cannot refer back and forth; security problems.

2. How does the present view regarding the use of microfiche in lieu of hard copy compare with previous feelings? 30 report a gain in acceptance; 7 no change; 2 still report a negative attitude. 2 no answers.

   To what do you attribute any change?

3. Are you experiencing any problems relative to the packaging, shipment, or receipt of the microfiche? 12 Yes 29 No

   If yes, please explain:

4. Are you having any difficulties in filing the microfiche or in maintaining the files? 7 Yes 34 No

   If yes, please explain:
3. Do you use positive microfiche:  8 Yes  33 No
   If yes, do you reproduce from the negative microfiche you receive from DDC?  7 Yes  1 No

4. What is your user reaction to positive microfiche as compared to negative? 13 do not receive positive microfiche; therefore no preference.  
   12 definitely do not like positive microfiche; 2 like positive microfiche.  
   14 no answers.

5. Are microfiche duplicates requested from DDC for additional files?  
   13 Yes  26 No  No reply  2
   If yes, specify the numbers and kinds of additional files:

6. How many AD report requests per month are received (from your STINFO users) in your library? 513  No reply  10
   To the best of your knowledge, what percentages of these requests are prompted by: %
   
   6 person-to-person communication (word-of-mouth advertising)?
   17 GAB announcement?
   4 CAST announcement?
   18 TAB announcement?
   7 USGRDR announcement?
   5 FAST announcement?
   12 TAB Indexes search?
   10 DDC bibliography search?
   21 Others (Please list)?

Of these requests, what percentages are:  No reply  9

43 forwarded to DDC?  
57 filled in-house?
5. Has the accumulation of microfiche for the past year had any impact on your operations?  
   - Yes  
   - No  
   - No reply

If yes, please explain: (In one instance, for example, a company increased their use of the DDC THEFLEX Bibliography Service.)

- Information is immediately accessible; storage capability has increased.
- Increased workload, increased the utilization of government R&D reports.
RECENT DDC-D TECHNICAL REPORTS


Automatic Selective Documentation Services

User-needs studies often present figures indicating that documentation services systems which rely on the mails are inherently incapable of effectively supporting more than half of all research and development tasks. In addition to investigating faster ways of transmitting information, DDC has also been developing and testing systems based on another approach: one of determining users' specific documentation requirements and automatically disseminating the needed documentation to the users' local libraries as soon as it becomes available.

This general concept was applied to the selective dissemination of both report announcements and full-text reports. Three different types of selective announcements, all produced on a regular semimonthly basis, were developed and tested: (1) automatic bibliographies, (2) group announcement bulletins (each of which contained announcements in just one of the 188 specific DoD-modified COTAX subject categories), and (3) selected announcements on magnetic tapes which could then be used as a basis for local SDI services. Selected reports were disseminated on the same semimonthly basis as the announcements, but in only one form—microfiche.
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<th>LINK B</th>
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