
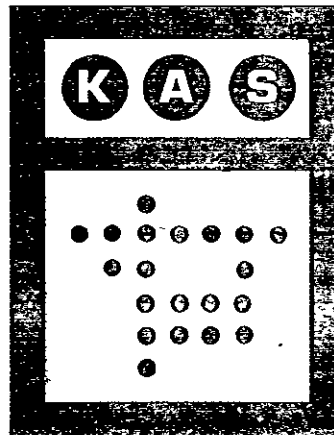


KASC INFORMATION SERVICES



THE SPACE AND TECHNOLOGY TRANSFER PROGRAM
at the
University of Pittsburgh
Knowledge Availability Systems Center
SECOND QUARTER REPORT
June . July . August
1969



KNOWLEDGE AVAILABILITY SYSTEMS CENTER
UNIVERSITY OF PITTSBURGH • PITTSBURGH, PENNSYLVANIA 15213

OCT 1969

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N69-40126	
(ACCESSION NUMBER)	(THRU)
62	
(PAGES)	(CODE)
LR-706307	34
(NASA CR OR TXM OR AD NUMBER)	(CATEGORY)

SECOND QUARTER REPORT

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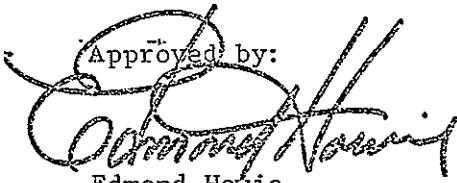
at the
University of Pittsburgh
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Submitted to:

The National Aeronautics and Space Administration

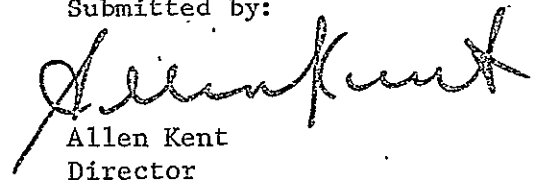
(Contract No. NSR 39-011-106)

Approved by:



Edmond Howie
Assistant Director

Submitted by:



Allen Kent
Director

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I. INTRODUCTION

This quarterly report is submitted in fulfillment of the requirements of the National Aeronautics and Space Administration Contract No. NSR 39-011-106 and covers the time period June 1, 1969, through August 31, 1969.

The three months span of time constitutes the second quarter of the sixth year of operation of the University of Pittsburgh Knowledge Availability Systems Center as a Regional Dissemination Center (RDC) for the National Aeronautics and Space Administration. The purpose of this report is to relate the activities of the RDC during the three months and to describe the impact of these activities in the transfer of aerospace technology to the non-aerospace sector of the Nation's industry.

The report describes:

1. Marketing of the RDC services--the net industrial income, the current status of the marketing activities, plans and objectives, tools of marketing, and the resulting clientele.
2. Technical Operations of the RDC--the services provided and the quantitative units of service.
3. Analysis Operations--strategy preparation for computer searches, manual searches, review of search output, impact studies, and aids to marketing.

II. MARKETING OPERATIONS

John E. Matenkosky
T. Scott Beveridge

- ⊙ Summary of Marketing Activities
- ⊙ Net Industrial Income
- ⊙ Current Status
 - Report Period
 - Personnel
 - Summary
- ⊙ Plans and Objectives
- ⊙ Tools of Marketing
 - Presentations to Potential Clients
 - Direct Mail Program
 - Periodic Clientele Contacts
- ⊙ KASC Clientele Totals
- ⊙ KASC Clientele Composition

SUMMARY OF MARKETING ACTIVITIES

	Current Quarter	Last Quarter	Year To Date
Total Industrial Income	\$18,344.00	\$19,034.00 *	\$37,378.00
Net Annual Contracts	60	58	
Number of Clients Served	72	64	
Number of Profiles Searched	425	466	891
Number of Searches Performed	1,196	1,279	2,475
Number of Calls on Clients	69	65	134
Number of Calls on Prospects	51	33	84
Total Direct Mail Pieces	1,573	1,027	2,600
Positive Response Percentage	1.0%	2.1%	1.5%

* Adjusted from the previously reported total of \$13,871.97. Income derived from annual search service contracts is allotted equally to each month of the contract year. Service was being provided on several such contracts beyond the expiration dates, but no income could be shown until contract negotiations were completed. The renewal of those contracts in this quarter resulted in a net increase in income allotted to the last quarter.

NET INDUSTRIAL INCOME

Total industrial income for the KASC RDC activity during the reporting period was \$18,344.00. The distribution of this income among the types of services offered by the KASC is as follows:

o Search Services	
Annual Basis	\$14,633
Ad Hoc Basis	\$ 1,260
o Document Services	\$ 1,114
o Abstract Packet Basis	<u>\$ 1,337</u>
TOTAL	\$18,344

Income derived from search services provided on an annual basis is allotted equally to each month included within the year of service contracted regardless of when the funds may have been paid. Income from ad hoc search services, i.e., retrospective searches only, and the other services of the KASC is considered as income for the month in which the service was provided. On a monthly basis, then, the total industrial income was as follows:

o June	\$ 6,529
o July	\$ 5,750
o August	<u>\$ 6,065</u>
TOTAL	\$18,344

CURRENT STATUS

Report Period

This section of the Second Quarterly Report details the activities of the KASC Marketing Department for the months of June, July, and August 1969.

Personnel

Added to the staff during August were two experienced Marketing Representatives, Mr. T. Scott Beveridge and Mr. John Matenkosky. Their responsibilities include all Marketing and related activities for the NASA RDC effort as well as for the other KASC Information Services. Mr. Frank O'Donnelli, former Marketing Manager, is no longer associated with KASC.

Summary

Included in the body of this report are statistics describing the KASC clientele in terms of number, location, and composition.

During the coming quarter, established practices and procedures will be followed. However, increased emphasis will be placed on the evaluation of Marketing activities and the analysis of statistics in order to improve the effectiveness of the program.

PLANS AND OBJECTIVES

In order to help achieve the goal of self-sufficiency, KASC will initiate a general campaign during the next quarter to provide information not only from the NASA files, but also from the CAS Condensates and Chemical Titles, the Engineering Index, and the DDC files. In accordance with previous discussions with NASA, a Workshop is planned for Pittsburgh in mid-September. Individual RDC's will be given an opportunity to describe services which can be made available to other RDC's via the NASA RDC network.

Announcements and brochures describing the various services available are being prepared. The first stage will be the mailing of information about the CAS files to companies with related SIC codes. The reply cards will, however, offer all of the services available from KASC.

The current direct mail program will continue, in that the Dun & Bradstreet list will be utilized. Concentration will be on the chemical-related companies with procedures similar to those used in the past.

Direct mail must continue to be the major source of prospective clients. However, a greater emphasis will be placed on two other potential sources of additional business, which are the MATERIALS ENGINEERING magazine returns and our present clients.

Each month MATERIALS ENGINEERING offers its readers a packet of abstracts which is the result of a KASC search of a profile of potential interest to those readers. The abstracts are sent directly to the reader by KASC in response to a memo from the magazine. These memos represent a source of names of people who have already been introduced to the KASC/NASA services.

More emphasis will also be placed on the extension of our services into divisions of our present clients which we are not currently serving. By using direct referral, we intend to broaden our coverage within these companies.

The Marketing records system is being examined to determine its effectiveness in meeting two basic requirements: the need to guide and evaluate advertising and promotional efforts, and the need for current information on the clients. Because of the interrelationships inherent in the Advertising/Marketing/Production complex, the possibility of integrating various recording and reporting procedures will also be considered.

TOOLS OF MARKETING

During the three-month period covered by the Marketing Report, the Marketing tools utilized by the KASC included:

- ⊙ Presentations to Potential Clients
- ⊙ Direct Mail
- ⊙ Periodic Clientele Contacts
- ⊙ Letters of Intent

Neither magazine nor newspaper advertising was used to assist the Marketing effort. However, these approaches will be reviewed and may be tried on a limited, specialized basis.

An article entitled "Apollo's Pot of Gold Awaits Takers at Pitt," describing KASC activities, appeared in the news section of the Pittsburgh Press on Sunday, July 27. No leads are attributable to this publicity.

The KASC brochure has been useful both as a reminder after presentations and as an answer to inquiries for general information. The new reply card now included with it offers information on NASA, CAS, DDC, and EI files.

Presentations to Potential Clients

During the reporting period, 31 calls were made on prospects by the Marketing Department. Several weeks of Marketing time were lost, however, due to the summer vacation periods.

Direct Mail Program

Direct mail procedures have been unchanged for more than a year (see Table 2-1). A series of three letters with appropriate enclosures is sent to chief executives and research directors at thirty-day intervals.

The variations in positive response to the letters appear to be due primarily to the mailing lists used. During 1967, a high of nearly 5% positive response was achieved by using Industrial Research Directories to pinpoint potential users. These directories, in addition to the Dun and Bradstreet mailing list, were again used in the first quarter of 1969, and the response has been somewhat better than that from the Dun and Bradstreet list alone. However, the Dun and Bradstreet lists have been the major source, and the twelve-month ending positive response percentage is near 1%.

Although a 1% response is considered acceptable for bulk mailings, it is inadequate for KASC purposes. Several steps are being considered for improvement of the response, including:

- o more effective mailing list
- o more effective letters and enclosures
- o changing the time intervals between letters

Details of the response to variations in current procedures will be analyzed to improve the cost/effectiveness of the direct mail program.

Table 2-1. Quarterly Analysis

	Total Mailed	Positive Responses	Year to Date			12 Month Ending		
			Total Mailed	Pos. Resp.	%	Total Mailed	Pos. Resp.	%
<u>1968</u>								
1st Quarter	978	14	978	14	1.43	-	-	-
2nd Quarter	1,768	15	2,746	29	1.06	-	-	-
3rd Quarter	1,886	14	4,632	43	0.93	-	-	-
4th Quarter	2,059	21	6,691	64	0.95	6,691	64	0.95
<u>1969</u>								
1st Quarter	1,027	22	1,027	22	2.10	6,740	72	1.07
2nd Quarter	1,573	16	2,600	38	1.46	6,545	73	1.11

Statistics reflecting the scope of the direct mail program during the quarter are shown in Table 2-2.

Table 2-2. Direct Mail Program, June 1969 - August 1969

	Total Mailed	Positive Resp.	Negative Resp.	Total Resp.
<u>June</u>				
Initial	160	3	0	3
First Follow-up	180	1	0	1
Second Follow-up	190	0	0	0
<u>July</u>				
Initial	219	4	1	5
First Follow-up	155	1	0	1
Second Follow-up	176	1	0	1
<u>August</u>				
Initial	280	5	0	5
First Follow-up	213	1	0	1
Second Follow-up	0	0	0	0
Subtotal				
Initial	659	12	1	13
First Follow-up	548	3	0	3
Second Follow-up	366	1	0	1
Totals				
	1573	16	1	17

The mailing activity increased by about 50% over the previous quarter, reflecting a return to the Dun and Bradstreet list from a mixture of Dun and Bradstreet and Industrial Research Directory sources. Positive response dropped from 2.1% to 1.46%.

Periodic Clientele Contacts

Periodic contact with the clientele of the KASC is made by both the Marketing Section and the Analysis Section. The contacts initiated by Marketing Section have one major objective: customer satisfaction leading to contract renewal.

Marketing contacts with current clients made during this quarter were as follows:

o Telephone Contacts	36
o Correspondence	20
o Visits	<u>13</u>
Total	69

KASC CLIENTELE TOTALS

At the end of the reporting period, the KASC clientele consisted of 60 organizations being served on an annual basis. During the period covered by this report, however, a total of 72 clients received service. This total is broken down as follows:

New Clients	7
Renewed Clients	8
Special (one time) Clients	6
In Process	40
Delinquent	5
Dropouts	<u>6</u>
Total	72

KASC CLIENTELE COMPOSITION

The geographic distribution of these organizations is shown in Table 2-3 while the group composition based on size, type, and two-digit standard industrial classification is shown in Tables 2-4, 2-5, and 2-6.

Table 2-3. Clientele Composition--Geographic

STATE	NO. OF COMPANIES
Connecticut	1
Delaware	1
Illinois	6
Maryland	3
Michigan	2
New Jersey	7
New York	5
Ohio	5
Pennsylvania	39
West Virginia	1
Wisconsin	2
TOTAL	72

Table 2-4. Clientele Composition--Size

SIZE	NO. OF COMPANIES
Large	48
Small*	24
TOTAL	72

*Under 500 employees

Table 2-5. Clientele Composition--Type

TYPE	NO. OF COMPANIES
Manufacturing	65
R & D	6
Non-industrial	1
TOTAL	72

Table 2-6. Clientele Composition--SIC Code (Two Digit)

CODE NO.	CATEGORY	NO. OF COMPANIES
13	Petroleum, Gas Products	1
14	Mining and Quarrying	1
26	Paper and Allied Products	1
27	Printing, Publishing	1
28	Chemical Products	6
32	Stone, Clay, Glass Products	5
33	Primary Metal Industries	11
34	Fabricated Metal Products	3
35	Machinery (Non-electric)	12
36	Machinery (Electric)	14
37	Transportation Equipment	1
38	Instruments (Photo, Optical)	6
39	Miscellaneous Manufacturing	2
73	Research (Commercial)	7
91	Federal Government	1
	TOTAL	72

III. TECHNICAL OPERATIONS

Guy W. McGee

- o Description of Services

- Search Services
 - Document Services
 - Abstract Packet Services

- o Search Services

- Profiles Served
 - Searches Performed
 - Searches Processed
 - Citations Retrieved and Submitted
 - No Citation Searches
 - Clientele Evaluation
 - Computer Runs
 - Repackaging of Search Output
 - Functional and Cost Analysis Effort

- o Document Services

- o Abstract Packet Services

DESCRIPTION OF SERVICES

Three general services are provided by the KAS Center to the non-aerospace section of the Nation's industry:

- o Search Services
- o Document Services
- o Abstract Packet Services

During the reporting period, the search services of the KAS Center were based on the NASA document collection which is announced in Scientific and Technical Aerospace Reports (STAR) and International Aerospace Abstracts (IAA). The service consists of the identification, either mechanically or manually of documents containing information related to a client's problem and the reproduction for the client of abstracts of the identified documents. As a result of these search services, or through avenues of announcement apart from the KASC, client receiving search services make use of the Center's document services to obtain the full document copy of an item which they desire. Document services are not provided except in association with search services.

The abstract packet services of the Center involve the joint efforts of the KASC and a nationally distributed technical periodical. Using the KASC search services, the periodical identifies "packets" of document abstracts related to a single topic which it knows to be of interest to its readers. These packets are described by the periodical in one or more of its issues and readers may request copies of the packets

through the reader services of the periodical's publisher. The request is forwarded to the KASC which responds directly to the client.

The search services offered by the KASC may be in response to the following:

- o A custom profile of a client.
- o A KASC designed profile in response to the common interest of a group of clients, commonly known as a standard interest profile (SIP).

Searches for custom profiles may be performed on the basis of one of the following:

Current Awareness - A search of the monthly computer tape received, containing that month's acquisitions. Twelve monthly searches comprise a search of all accessions for a period of one year from the time of submission of the profile.

Retrospective - A search of all computer tapes previously received, including the most recently received monthly tape, comprising a search of all accessions made for the system up to the time of submission of the profile.

Current Awareness and Retrospective - A combination of the two previous search services, comprising a search of all accessions made for the system up to the time of submission of the profile and of all future accessions for a period of a year. Service may be initiated by a partial retrospective search (a select portion of the past accessions) or by an initial current awareness search before performing a complete retrospective and continuing on the future monthly basis.

Searches for standard interest profiles are performed only on a current awareness basis. For clarification, the SIP of the KASC search services

is distinguished from the search results of profiles of general interest distributed as abstract packet services in the following way: Inasmuch as searches are performed on a current awareness basis for standard interest profiles, a total of 12 monthly searches are available to clients who subscribe to such a profile. On the other hand, an individual who purchases the search results for a profile of general interest, through the periodical announcing its availability, receives the results of a single search which has covered a select portion of the most recent documents accessioned by NASA, i.e. a partial retrospective search.

Additional flexibility is available to the client who desires search services for a custom profile. Not only may he receive current awareness, retrospective, or the combination of current awareness and retrospective searches, the output which he receives may vary in one of three ways. The three variations have been designated as service types and are as follows:

- Type I. Subscribers to this service receive only a computer printout which lists the accession numbers of documents cited by the search. No abstracts or bibliographic entries for the documents are provided and no review of the search results is performed by subject specialists. Subscribers must provide their own copies of STAR and IAA for identification of the documents whose accession numbers appear on the printout.
- Type II. Subscribers to this service receive abstracts with complete bibliographic entries of all documents cited by the computer search. No review of the search results is performed by subject specialists.
- Type III. Subscribers to this service receive abstracts with complete bibliographic entries of those documents cited by the computer search which are relevant to the

profile as determined by a specialist in the subject area of the profile.

These three service variations for each of the three search types, combined with the SIP, present ten options in search service. Each of these options is priced separately.

In addition, the KASC offers a client full document copy service. This service is based on the exploitation of local sources as well as those of a nationally known abstract service, International Aerospace Abstracts published by the American Institute of Aeronautics and Astronautics.

SEARCH SERVICES

Profiles Served

During the reporting period, a total of 426 unique profiles were served on either a current awareness basis (C/A); a retrospective basis (Retro), or a combination of both (Retro + C/A). Of the total, 41 were newly introduced to the system during the three month period of work performance. This was 14 more than were introduced during the preceding quarter. However, cancellation of service on profiles continuing from the earlier quarter exceeded the initiation rate of the new profiles resulting in a net decrease of 40 profiles. The totals by search types are as follows:

	Continuing from Previous Quarter	New during Current Quarter	Totals
Current Awareness	375	3	378
Retrospective	3	22	25
Combination	<u>7</u>	<u>16</u>	<u>23</u>
TOTALS	385	41	426

By service types, the distribution of the profiles served is presented in Table 3-1.

Table 3-1. Profiles Served by Service and Search Types

SEARCH TYPE	SERVICE TYPE								TOTALS
	Type I		Type II		Type III		Type IV		
	Contin- uing	New	Contin- uing	New	Contin- uing	New	Contin- uing	New	
C/A	0	0	88	2	273	0	14	1	378
Retro	0	0	1	16	2	6	0*	0*	25
Retro + C/A	0	0	1	7	6	9	0*	0*	23
TOTALS	0	0	90	25	281	15	14	1	426

*Not Applicable

Of the 16 new Type II, Retro only, profiles, six were received from organizations falling within the classification of small businesses. These organizations were referred to the KAS Center by the Small Business Administration under an agreement with the National Aeronautics and Space Administration which provided that such organizations would re-

ceive a Type II Retrospective only search at no expense. Should the organization so desire, current awareness service would be continued for the profile at a cost to the organization of the difference between the rate for Retro + C/A service and Retro only service. As of the end of the current reporting period, C/A service has not been requested for any of the six profiles.

One of the small business organizations was referred to the KASC during the month of June and the remaining five were referred in the month of August. The organizations were as follows:

Akron Equipment Company,
Akron, Ohio
Denro Laboratories, Incorporated,
Rockville, Maryland
General Technologies Corporation,
Reston, Virginia
Lee Wilson Engineering Company
Rock River, Ohio
Maran Plastic Company
Baltimore, Maryland
Polysciences, Incorporated,
Warrington, Pennsylvania

During the quarter an additional SIP (Type IV service) of the 31 offered by the KASC was requested by the Center's clientele. Currently 15 of the 31 are now searched for a total of 18 subscriptions. However, the subscription rate of slightly more than one per profile has not changed from the previous quarter.

Searches Performed

A total of 1,186 searches were performed for the 426 unique profiles identified above. The quantities of searches by service types is presented in Table 3-2.

Table 3-2. Searches Performed by Service Types

	SERVICE TYPE				TOTALS
	Type I	Type II	Type III	Type IV	
C/A	0	476	622	43	1,141
Retro	0	27	18	0*	45
TOTALS	0	503	640	43	1,186

*Not Applicable

A comparison of Table 3-1 with Table 3-2 shows that for each search type the number of searches performed exceeds the number of unique profiles served. This is explained as follows: a profile receiving current awareness service receives a search each month and, therefore, for any one profile receiving C/A service during all three months of the reporting period a total of three searches will have been performed.

Apparently not all the profiles served on a C/A basis during this quarter received three searches. Service for a profile may have been terminated before the third search was performed or service for a newly introduced profile may not have begun until after the first search was performed. The rate of termination and introduction of profiles for C/A service

during the current reporting period resulted in the total C/A searches being less than three times the number of unique profiles receiving C/A service.

A similar phenomenon occurs with Retro searches. During any one quarter a profile requiring retrospective service may receive one search of the retrospective file or one or more searches of select portions of the retrospective file. Regardless of the range of the search, on the tabulation it has been counted as one search, and therefore, the total Retro searches exceeds the total unique profiles receiving retrospective service. Obviously, these two phenomenon present a combined effect for the searches of profiles receiving retrospective plus C/A service.

The 1,186 searches performed during the current quarter were 93 fewer than the 1,279 searches which had been performed during the preceeding quarter. This decrease in searches is accounted for by the net decrease of 40 profiles mentioned earlier.

Searches Processed

With a decrease from the preceeding quarter to the present reporting period of profiles served and searches performed, it is to be expected that the number of searches processed will also have decreased. For the current quarter, 1,155 searches were processed as opposed to 1,321 for the earlier quarter. The 1,155 processed during the three months of this report are broken down by service category in Table 3-3.

Table 3-3. Searches Processed by Service Type

	SERVICE TYPE				TOTALS
	Type I	Type II	Type III	Type IV	
C/A	0	299	763	48	1,110
Retro	0	24	21	0	45
TOTALS	0	323	784	48	1,155

Following the performance of a search, varying processing steps are required before the results of the search are mailed to the recipient. Thus, a search performed in one period of work may not be completely processed until the following reporting period. For this reason, the numbers of searches processed and mailed as depicted in Table 3-3 does not agree with the numbers of searches performed which are presented in Table 3-2.

The statistics which are presented in the next section of this report pertain only to searches for which processing was completed during the reporting period.

Citations Retrieved and Submitted

The 1,155 searches processed during the reporting period resulted in the identification of 62,914 citations: 62,644 (99.6%) were identified by computer and 270 (0.4%) were identified manually. Of the total retrieved, 29,278 (46.5%) were submitted to clients.

The 62,914 identified items were 9,795 (13.5%) fewer than were identified in the preceeding quarter. Quantitatively, most of the decrease (9,556)

is accounted for within the computer cited items. However, the remaining 239 items of the decrease represent 46.9% of those which were manually identified during the earlier quarter.

Items submitted to clients also decreased (1,746) but by only 5.7% of the items submitted during the preceding reporting period. As a result of the smaller decrease in items submitted than in items identified, the percentage of relevant items, i.e. items submitted divided by items identified, for the current reporting period (46.5%) actually increased by nearly four percentage points over the relevancy percentage for the preceding quarter (42.7%).

Table 3-4 presents for all processed searches a tabulation by source of citations retrieved compared to citations submitted.

Table 3-4. Citations Retrieved vs. Citations Submitted

	CITATIONS RETRIEVED	% OF TOTAL RETRIEVED	CITATIONS SUBMITTED	% SOURCE CITED	% TOTAL SUBMITTED
STAR	29,242	46.4	13,387	46.7	45.7
IAA	32,086	50.9	14,838	46.2	50.6
AM	1,441	2.2	947	65.7	3.3
TECH BRIEFS, and MISC.	145	.5	106	73.1	.4
TOTALS	62,914	100.0	29,278	46.5	100.0

Those citations which were retrieved and submitted for current awareness searches are presented by source and mode of citation in Tables 3-5 and 3-6.

Table 3-5. Current Awareness Citations Retrieved

TYPE OF SEARCH	ABSTRACT OR ITEM SOURCE					TOTAL
	IAA	AM	STAR	Tech Briefs	Other	
Mechanical	22,363	597	18,483	0	0	41,443
Manual	95	20	88	41	26	270
TOTALS	22,458	617	18,571	41	26	41,713

Table 3-6. Current Awareness Citations Submitted

TYPE OF SEARCH	ABSTRACT OR ITEM SOURCE					TOTAL
	IAA	AM	STAR	Tech Briefs	Other	
Mechanical	8,618	135	6,980	0	0	15,733
Manual	78	7	58	36	14	193
TOTALS	8,696	142	7,038	36	14	15,926

The same type of information for retrospective searches is presented in Tables 3-7 and 3-8.

Table 3-7. Retrospective Citations Retrieved

TYPE OF SEARCH	ABSTRACT OR ITEM SOURCE					TOTAL
	IAA	AM	STAR	Tech Briefs	Other	
Mechanical	9,628	824	10,671	78	0	21,201
Manual	0	0	0	0	0	0
TOTALS	9,628	824	10,671	78	0	21,201

Table 3-8. Retrospective Citations Submitted

TYPE OF SEARCH	ABSTRACT OR ITEM SOURCE					TOTAL
	IAA	AM	STAR	Tech Briefs	Other	
Mechanical	6,142	805	6,349	56	0	13,352
Manual	0	0	0	0	0	0
TOTALS	6,142	805	6,349	56	9	13,352

A summary of all citations retrieved and forwarded for both current awareness and retrospective searches is presented in Tables 3-9 and 3-10 by service type and source of citation.

Table 3-9. Total Citations Retrieved Per Service Type

SOURCE	SERVICE TYPE				TOTALS
	Type I	Type II	Type III	Type IV	
STAR	0	8,438	19,297	1,507	29,242
IAA	0	8,081	22,189	1,816	32,086
AM	0	879	483	79	1,441
Tech Briefs and Misc.	0	35	103	7	145
TOTALS	0	17,433	42,072	3,409	62,914

Table 3-10. Total Citations Submitted Per Service Type

SOURCE	SERVICE TYPE				TOTALS
	Type I	Type II	Type III	Type IV	
STAR	0	8,438	4,462	487	13,387
IAA	0	8,081	6,130	627	14,838
AM	0	879	50	18	947
Tech Briefs and Misc.	0	35	68	3	106
TOTALS	0	17,433	10,710	1,135	29,278

No Citation Searches

The per cent of "no citations" reports submitted during this quarter dropped from 11.5 for the preceeding quarter to 10.0 for the current quarter.

A notice of "no citations" is forwarded to clients for a portion of the searches performed each month despite supplementation by manual searches of mechanical searches failing to identify a single relevant citation. The manual searches are limited to the literature covered by the mechanical search.

Prior to the current reporting period, all "no citations" mechanical searches were automatically supplemented by manual searches. During this quarter, supplementary manual searches were performed only for pro-files receiving Type III service. Still, the portion of all searches

resulting in "no citations" decreased 1.5%. A comparison of the "no citations" searches by service type is made in Table 3-11 for the two reporting periods.

Table 3-11. No Citation Searches by Service Type

	1ST QUARTER			2ND QUARTER		
	Searches Processed	No. of "No Cites"	%	Searches Processed	No. of "No Gites"	%
Type I	1	0		0	0	
Type II	519	17	3.3	323	13	4.0
Type III	758	136	17.9	784	102	13.0
Type IV	43	0		48	0	
TOTALS	1,321	153	11.5	1,455	115	10.0

Clientele Evaluation

Evaluations of citations received during the current quarter indicated that citation relevancy to clientele interests increased by 7.1% over the preceding quarter.

During the reporting period, clients returned evaluations of 12,118 citations associated with 814 searches (795 current awareness, 19 retrospective). A comparison between the current and preceding quarters for the evaluated citations is permitted by Table 3-12.

Table 3-12. Citations Evaluated

	1ST QUARTER		2ND QUARTER	
	No. of Citations	%	No. of Citations	%
Relevant	9,090	64.1	8,694	71.7
Relevant to Other Interests	1,160	8.2	709	5.9
Not Relevant	3,927	27.7	2,715	22.4
TOTALS	14,177	100.0	12,118	100.0

The citations evaluated during the current quarter are broken down by source in Table 3-13.

Table 3-13. Clientele Evaluations

Source	Citations Evaluated	%
STAR	5,502	45.0
IAA	6,248	52.0
AM	110	1.0
Tech Briefs and Misc.	258	2.0
TOTALS	12,118	100.0

Tables 3-14 and 3-15 present customer evaluations per current awareness and retrospective searches respectively. Table 3-16 presents the evaluations per type of service provided.

Table 3-14. Customer Evaluation--Current Awareness Searches

Item Source	Related	%	Not Related	%	Related to Other Interests	%
IAA	4,399	54.0	1,117	46.7	326	48.5
AM	25	.3	47	2.0	6	.9
STAR	3,533	43.4	1,184	49.5	323	48.1
Tech Briefs	177	2.2	43	1.8	17	2.5
Other	7	.1	0	.0	0	.0
TOTALS	8,141	100.0	2,391	100.0	672	100.0

Table 3-15. Customer Evaluation--Retrospective Searches

Item Source	Related	%	Not Related	%	Related to Other Interests	%
IAA	250	45.2	129	39.8	27	73.0
AM	29	5.3	3	.9	0	.0
STAR	271	49.0	181	55.9	10	27.0
Tech Briefs	3	.5	11	3.4	0	.0
Other	0	.0	0	.0	0	.0
TOTALS	553	100.0	324	100.0	37	100.0

Table 3-16. Client Evaluation vs. Service Type

Type of Service	Relevant Citations	%	Non-Relevant Citations	%	Related to Other Interest	%	Totals :
Type I	0	0	0	0	0	0	0
Type II	3,177	37	1,592	59	250	35	5,019
Type III	5,334	50	1,052	39	411	58	6,797
Type IV	183	13	71	2	48	7	302
TOTALS	8,694	100	2,715	100	709	100	12,118

Computer Runs

In its current mode of operation, the KASC regional dissemination center requires a minimum of 21 reels of computer tape. These reels are assigned for use in the following ways:

- Seven reels are required for the file of items accessioned by NASA beginning in 1962 and running through the eighth month of 1969. It is this file of tapes which is used for retrospective searches.
- An additional seven reels are required for duplicates of the above tapes for safeguarding the integrity of the retrospective file.
- One reel is required for the latest current monthly items accessioned by NASA to be used in C/A searches.
- One reel is required for storing the latest strategy used for each profile searched on a C/A basis as a safeguard for the punched card strategy data deck.
- Five reels are required for rotation between the KASC and NASA's Scientific and Technical Information Facility in the monthly updating process. A minimum of three reels are maintained on deposit at the Facility while two are interchanged between the two organizations each month.

During the current quarter the KAS Center relied upon the Computer Center of the University of Pittsburgh to perform approximately 50% more computer runs than the preceding quarter. A total of 60 runs, 21 more than the last reporting period, were required in the minimal operation of the RDC, all of which were routinely successful in performance.

- o 33 runs consisted of searches of part of the retrospective file of seven reels. A complete retrospective search is never performed in one run by the KASC. The 33 runs during this quarter represent an increase of 12 retrospective searches over the 21 runs of the preceding quarter.
- o 3 runs consisted of the reformatting of the data on the monthly tape received from NASA onto another computer tape to meet the requirements of the KASC search program.
- o 3 runs consisted of searches of the latest reformatted current monthly tape, i.e. C/A searches.
- o 3 runs consisted of the execution of a program, using a separate data deck of cards but run concurrently with the C/A search, which generates various summary data pertaining to the profiles receiving the C/A search and which also generates an audit record for the processing of the C/A search.
- o 7 runs consisted of the storage of the profile strategies used in C/A and retrospective searches on a separate reel. There was an increase of four such runs during this quarter over those of the preceding quarter.
- o 6 runs consisted of the appending of the reformatted monthly data to that which has already been stored on the seven reels constituting the retrospective file. There was an increase of three such runs during this quarter over those of the preceding quarter.
- o 5 runs consisted of the verification of descriptive statistical data collected in the provision of service to clients, such as items retrieved and forwarded. There was an increase of two such runs during this quarter over those of the preceding quarter.

Repackaging of Search Output

Plans were formulated during the three month reporting period for the improvement of the search results package received by the KASC clients.

The current package, consisting of abstracts of cited items reproduced on 3 x 7.5 inches slips of paper stapled as a small booklet to an evaluation-document-order form, does not connote the unique effort expended in response to a client's interests. In addition, without supporting covers, the booklet does not lend itself well to storage. To overcome these inherent difficulties, the end product should be of a standard size and sufficiently stiffened for shelf storage. Also, its format and its content should visually suggest a singularity of existence.

The standard size selected for the new package was 8.5 x 11 inches which permits reproduction of three or more abstracts per sheet. For shelf storage, the sheets of abstracts will be bound with appropriate preliminary pages, using plastic element bindings, between covers of heavier paper stock. The informational content of the cover and the preliminary pages, supported by their design and layout, will describe the efforts of the KAS Center for the sole benefit of the interests of the recipient.

In addition to these physical changes of the search output package, the client will receive all abstracts which have been cited. This is not a change for Type II service which by its nature now includes abstracts

of all cited items. For Type III service inclusion of abstracts of all cited items does constitute a change. Currently only abstracts considered relevant to the profile as determined by a KASC subject specialist are included in the Type III output package. Type III service will continue to identify for the client those abstracts which are of direct interest to him and within the new package these items will be appropriately marked and located for the client's immediate recognition. An added benefit to the client, however, will be the inclusion of the remaining abstracts to insure his understanding of the scope of the task which has been performed for him, to permit him to browse for items of peripheral interest, and to engender evaluative feedback when the KASC concept of his profile has been too restrictive.

Steps taken during this quarter to implement these plans included the experimental production of search results in the new format and the consideration by the KASC staff of several cover designs. An appropriate design was selected which will be equally suitable for the covers of hard copy documents supplied by the KASC to its clients. The new cover will be available during the first month of the coming reporting period during which time the plans for repackaging of search output will be implemented.

As a part of the repackaging plans, consideration was given to the elimination of the evaluation form which accompanies each search result output. A survey of KASC clients, however, revealed that several of them have adopted the form in their management of outside information

services and its elimination would impose a burden to the detriment of KASC-clientele relationships. Economy in the processing of search output had suggested the elimination of the form. Ways of producing it more economically will be explored during the coming quarter.

Functional and Cost Analysis Effort

During the quarter efforts were directed toward the development of a computer program which would minimize the clerical effort of sorting, printing, and tallying punched cards in order to provide statistical data descriptive of:

- o the search results for each profile.
- o the search results for all profiles for each client.
- o the search results for a given range of document accessions covered by a search.
- o the work performed within one chronological month.

In addition to minimizing the clerical effort now being expended in this effort, relationships between items retrieved and forwarded for Type III and Type IV profiles will be computed and made available to the Analysis Section. Rapid identification of profiles with inefficient strategies will be possible permitting, on a more efficient basis, the evaluation of the strategy, the responsible subject specialist's performance, and the KASC concept of the client's problem. Data pertaining to the service to a client will also be more rapidly and reliably generated for the purposes of marketing activities in maintaining clientele satisfaction.

The continuing functional and cost analysis effort has focused on the following objectives:

- o Categorization of the activities of profile processing.
- o Quantification of the time per profile spent in each activity category.
- o Quantification per profile of fixed costs, e.g. computer costs, copying machine costs, etc.
- o Determination of operational overhead per profile.

Assisting in the achievement of these goals is a doctoral student of the University of Pittsburgh, Mr. Paul Peters, whose past experience and education will prove invaluable. Mr. Peters holds a Bachelor of Science Degree in Computer Science from the University of Dayton and is a former systems analyst in On-line Systems Engineering for the National Cash Register Corporation. His initial efforts will be directed toward the identification of functions which have not been included in past analyses because of their recent institution and the quantification per profile of fixed costs.

DOCUMENT SERVICES

The number of documents supplied to KASC clients continued to decrease during this quarter but at a much less rapid rate than in the preceding two quarters.

During the Fall of 1968 a new pricing schedule was introduced making document costs an item separate from search costs. For the first

quarter following the introduction of the pricing schedule, December 1968 through February 1969, there was a decrease of 753 documents submitted to the Center's clients. During the quarter March 1969 through May 1969, the decrease was 951 documents. For the current quarter the decrease in documents submitted was only 121. The nine month trend has shown a greater decrease in hard copy documents than in documents on microfiche; however, during the current reporting period the trend was reversed so that 21.0% fewer microfiche were supplied than during the March-May period while only 3.2% fewer hard copies were supplied.

For the nine-month period the decreasing document requirements of the KASC clientele has consisted primarily of documents announced in STAR rather than those announced in IAA. This phenomenon has led to the conclusion that the report literature is more generally available to KASC clients than the published literature. For the three quarters the change in documents supplied by source of document announcement is as follows:

	<u>STAR</u>	<u>IAA</u>
December 68 - February 69	-30.4%	-11.0%
March 69 - May 69	-23.6%	-43.2%
June 69 - August 69	-22.6%	+12.1%

During the quarter the KASC was able to supply more copies of documents announced in IAA than in the previous quarter despite a monthly limitation of documents which may be borrowed from the AIAA, publisher of IAA. The limitation, 50 documents per month, has in turn placed a limit on

the maximum number of monthly clientele requests for IAA-announced documents which can be filled using the resources of the AIAA. Our past experience has shown that no more than 1.5 clientele requests can be filled by any one loaned document. Thus, with a limitation loan of 50 documents a maximum of 75 requests may be filled. During the current quarter maximum use was made of the AIAA loans which accounted for 8.9% of the quarter's requests for documents announced in the IAA. Approximately 40% of the remaining requests were located in local libraries leaving slightly over 50% which had to be purchased from their publishers.

Table 3-17 presents the distribution of the documents supplied during the current reporting period on the basis of STAR subject categories, and Table 3-18 provides, on a monthly basis, statistics about the source and form of the documents submitted. Table 3-19 presents the documents submitted by service type.

Table 3-17. Document Service (STAR Category)

STAR CATEGORY NUMBER	STAR CATEGORY TITLE	STAR		IAA		TOTALS
		HC	MF	HC	MF	
01	Aerodynamics	0	2	11	2	15
02	Aircraft	2	0	12	6	20
03	Auxiliary Systems	23	3	12	1	39
04	Biosciences	10	0	7	3	20
05	Biotechnology	10	2	23	1	36
06	Chemistry	48	12	7	0	68
07	Communications	7	1	3	0	11
08	Computers	36	10	10	0	56
09	Electronic Equipment	27	3	24	0	54
10	Electronics	5	1	3	0	9
11	Facilities, Research & Support	4	1	7	1	13
12	Fluid Mechanics	6	1	10	2	19
13	Geophysics	1	3	1	1	6

Table 3-17. Document Service (STAR Category) (Continued)

STAR CATEGORY NUMBER	STAR CATEGORY TITLE	STAR		IAA		TOTALS
		HC	MF	HC	MF	
14	Instrumentation & Photography	18	7	48	22	95
15	Machine Elements & Processes	75	38	197	23	333
16	Masers	7	2	33	3	45
17	Materials, Metallic	89	15	150	14	268
18	Materials, Non-metallic	80	26	105	3	214
19	Mathematics	16	4	4	1	25
20	Meteorology	11	1	1	0	13
21	Navigation	0	0	5	0	5
22	Nuclear Engineering	9	2	2	0	13
23	Physics, General	7	3	6	0	16
24	Physics, Atomic, Mol., Nuclear	4	0	0	0	4
25	Physics, Plasma	0	2	6	0	8
26	Physics, Solid-State	11	3	36	2	52
27	Propellants	0	1	3	1	5
28	Propulsion Systems	5	1	8	1	15
29	Space Radiation	0	0	2	0	2
30	Space Sciences	3	3	4	0	10
31	Space Vehicles	2	0	2	0	4
32	Structural Mechanics	49	10	74	7	140
33	Thermodynamics & Combustion	7	2	6	3	18
34	General	21	12	22	5	60
	Unknown	0	0	1	0	1
	TOTALS	593	172	845	102	1,712

Table 3-18. Documents Submitted

MONTH	SOURCE				TOTALS
	STAR		IAA		
	HC	MF	HC	MF	
June	179	76	295	44	594
July	184	80	234	41	539
August	230	16	316	17	579
TOTALS	593	172	845	102	1,712

Table 3-19. Documents Submitted by Service Type

SERVICE TYPE	SOURCE				TOTALS
	STAR		IAA		
	HC	MF	HC	MF	
Type I	0	0	0	0	0
Type II	90	39	173	31	331
Type III	366	109	566	68	1,107
Type IV	22	17	32	5	76
Unknown	115	7	74	2	198
TOTALS	589	172	845	106	1,712

ABSTRACT PACKET SERVICES

The abstract packet services of the KASC are made available to the general public through Materials Engineering, a Chapman-Reinhold publication. This monthly publication selects groups or packets of abstracts covering a topic of interest to its readers from the results of partial retrospective searches performed for the magazine by the KASC. A description of the packet appears from time to time in the pages of the periodical and readers may obtain the packet through the reader services of the magazine's publisher at a cost of \$3.00; The request is forwarded to the KASC which then duplicates the packet and mails it directly to the requester. The KASC shares in the charge made for the packet as reimbursement for the search which it performed and for duplication of the packet.

During the current quarter no searches were required by Materials Engineering for its announcements. Packets which were distributed during the time period are presented below by month.

June	341
July	295
August	<u>339</u>
TOTAL	975

IV. ANALYSIS

Elizabeth P. Hartner

- o Scope of activities
- o Strategy Preparation
- o Manual Searches
- o Review of Search Output
- o Impact

Document Evaluation by Questionnaire
Evaluation by Clients
Client Contact

- o Aids to Marketing

SCOPE OF ACTIVITIES

The following services are provided by the analysis staff to insure the technical quality of search results:

- The formation and revision of search strategies for all profiles, Type I, II, III, and IV. (1)
- Manual searches of STAR and IAA journals, supplementary journals, bibliographies, and subfiles. (2)
- Review of results of Type III and all Type IV searches.
- Studies of the impact of results upon industry.
- Sample searches, explanations of searching techniques, and estimates of probable search results for proposed profiles, for Marketing.

STRATEGY PREPARATION

During the second quarter a total of 166 new strategies were written and 78 previously used strategies revised. Because two index bases have been used by NASA to identify documents accessioned for its collection a profile requiring a full retrospective search must have two separate strategies. In addition, if a profile requires both Retrospective and Current Awareness Service, a different strategy may be used for the CA search than was developed for the latest portion of the retrospective file, even though the same indexing base is used. Therefore, the number

-
- (1) Type I, listing of accession numbers, not reviewed. Type II, list of accession numbers, with abstracts, not reviewed. Type III, list of accession numbers, with abstracts, reviewed. Type IV, Standard Interest Profile, list of accession numbers, with abstracts, reviewed.
 - (2) The subfiles are portions of the whole file consisting of all citations related to a general subject.

of new strategies exceeds the number of new profiles. The number of strategies prepared and reviewed during each month of the second quarter are presented in Table 4-1.

Table 4-1. Search Strategies Prepared and Reviewed

Data Base	June		July		August		Totals
	New	Revised	New	Revised	New	Revised	
NASA - SAL	46		18		15		79
NASA - Thesaurus	46	26	18	23	17	25	155
DOD	1						1
Chem. Condensates	1	2			4		7
Chem. Titles							0
Totals	94	28	36	23	36	25	242

The strategies for the new profiles submitted during this quarter were distributed among the search areas listed below:

	<u>No. of Profiles</u>
1. Biology, medicine	13
2. Sound, acoustics, radio	8
3. Composites	6
4. Geology, oceanography	6
5. Electronics, magnetics, electrical engineering	5
6. Fluid flow, fluid mechanics, heat transfer	5
7. Mechanical engineering and design	5
8. Metal forming, deformation and wear	5
9. Polymers, elastomers, plastics	5
10. Coatings, corrosion, surface finishes	4
11. Joining, brazing, welding, coupling, fastening	3
12. Chemical processing, catalysis, chemical engineering	2
13. Lubrication, lubricants, petroleum chemistry	2
14. Physical metallurgy, solid state physics	2
15. Analysis and spectroscopy	1
16. Ceramics, refractories, glass	1

	<u>No. of Profiles</u>
17. Control-computers	1
18. Inspection, NDT, metal props and testing	1
19. Management, psychology	1
20. Mathematics, statistics	1
21. Metallurgy, non-ferrous	1
22. Physical chemistry	<u>1</u>
Total	79

The 76 revisions were performed as a result of requests from the clients, requests from subject specialists, or upon the examination of profiles for which no citations had been forwarded to the client, or for which the client reported a high number of non-pertinent citations. Of the profiles forwarded after review with no citations, some are so narrow that no citations occur repetitively month after month. For some of these the client expects, or hopes, not to find material.

At the end of the second quarter, 12 of the currently served profiles had had no citations for two or more consecutive searches. The number of profiles for which repetition occurs are listed below for each number of repeated no citations.

<u>Consecutive Searches</u>	<u>Number of Profiles</u>
11	3
4	2
3	2
2	5

MANUAL SEARCHES

Seventy-five manual searches were performed during this quarter. Thirty-seven of these manual searches were made by examination of abstracts cited

as pertinent to an interest generically higher than the narrow specific interest of the question. These abstract files, called subfiles, are prepared by searching the tape with a strategy written for the higher generic area, to offset the unavailability of exact index terms for the narrow interest. Thirty-eight of the manual searches were of the current journals (IAA and STAR) for profiles for which no related citations were identified. The number of profile searches performed in these two ways are presented in Table 4-2.

Table 4-2. Manual Searches by Month

	June	July	August	Total
Searched against Subject Indexes	14	13	11	38
Searched against Subfiles	13	13	11	37
Totals	27	26	22	75

REVIEW OF SEARCH OUTPUT

Fourteen subject specialists reviewed search results of Type III and Type IV profiles, during the second quarter, 1969. Six of these are full or part time members of the staff of the KAS Center, while eight are members of the faculty of the School of Engineering of the University of Pittsburgh.

During this quarter the results of 829 searches were reviewed. Seven hundred seventy-one were Current Awareness custom profile searches. Forty-

two were Current Awareness Standard Interest Profile searches, and 16 were Retrospective custom profile searches. Table 4-3 shows the distribution of this work between the reviewing groups on a monthly basis.

Table 4-3. Searches Reviewed by Month

	Current Awareness			Retrospective	Totals
	June	July	August	All Months	
Engineering Faculty	119	126	111	4	360
KASC Staff Analysts	154	154	149	12	469
Totals	273	280	260	16	829

IMPACT

Specific transfers of information were identified during the quarter, by document questionnaires returned from client companies, of which five documents listed below are examples:

- o N68-32344 The document identifies, for steels of specific compositions, the results of hydrogen attack at high temperatures and pressures. Such information can be a major help in designing steel pressure vessels for hydrogen.
- o N68-38405 The document describes a sensitive cup anemometer for wind profiles. This method can aid in the design of buildings, bridges, etc. for which the amount of wind load must be known.
- o N68-38430 The document describes a gust measuring probe. As in the above document, this method can also aid in the design of buildings, bridges, etc. for which the amount of wind load must be known.

- N68-37823 The action of liquid sodium on 304 Stainless Steel is discussed. This information can be an aid in the selection of materials which would contact liquid sodium, as for instance, in the liquid metal system of an atomic reactor. The client might be a designer of atomic reactors, or a seller of steel.
- N68-38344 The use of the electron microprobe to identify a structure change in an alloy. Such methods can be useful to determine the temperature range within which an alloy will support a load.

The information in these documents is being used by industrial clients in present research and development. Permission to publicize the use of the information has not been granted. The five documents are representative of an accumulating list of documents rated directly useful by the client companies.

During the previous quarter a formula was designed to approach some definitive, quantitative, measure of impact. The result was the algorithm:

$$I = Q + P + C + R, \text{ where}$$

I is a quantity representing impact

Q is a quantity derived from document questionnaire answers

P is a quantity derived from evaluation data returned from the client

C is a quantity derived from customer contact reports

and R is a factor based upon company contract renewal.

During this quarter efforts were concentrated on the improvement of the document questionnaire in form, content, and method of approaching the

the client. These efforts, and results related to the P and C factors of the algorithm, are discussed below.

Document Evaluation by Questionnaire.

A plan was made by which it was hoped to identify information of greatest value to the industrial community. Questionnaires (see Appendix 4-I) were sent out for a selection of documents rated pertinent by the client. Permission to send the questionnaires was requested from each company (see Appendix 4-II), and a cover letter sent with the questionnaires (see Appendix 4-III). The questionnaires and letters were sent about two months after the documents, in the belief that the information in the document may have been put to use during that time.

During the quarter 67 of these questionnaires were sent to four companies. One company was not willing to accept the questionnaires. Nineteen questionnaires have been returned. Of these, eleven rated the specific documents to be of value. Seven of these valuable documents are published in Technical Journals, and four are from government sources. The distribution of the documents by STAR subject categories is:

<u>Category</u>	<u>No. of Documents</u>
17. Materials, Metallic	5
14. Instrumentation and Photography	2
01. Aerodynamics	1
18. Materials, Non-metallic	1
20. Meteorology	1
26. Physics, Solid State	1

This distribution agrees with the distribution for a much larger sample discussed in the Fifth Annual Report.

The identification of pertinent abstracts for which documents had been ordered, the copying of the abstracts, and mailing of the abstracts with questionnaires to the client, requires considerable time and effort. The return of 28% of questionnaires sent out, was from only one of the four companies. The procedure does not seem to be a promising one, and will be abandoned.

The effort, however, did result in the identification of specific transfers of information, as listed in the first paragraph under the heading IMPACT above, page 4-6.

To increase the number of identified useful pieces of information, questionnaires will be sent with all documents. Documents will not be sampled, but a simplified questionnaire sent with each document. The questionnaire will be in the form of a Hollerith card with return address on the reverse side, as shown:

<p>May we reveal that this document was of interest to your company? Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>If the answer is "No" we will merely use your answers in a statistical summary.</p> <p>Please grade your answers from 0 to 9 with 9 the most value and 0 for least value.</p>	<p>Document No. _____</p> <p>Company Code _____</p> <p>Question No. _____</p>																																																												
<p>1. To what extent did the information aid in research? ..</p> <p>2. To what extent did it reduce costs?</p> <p>3. To what extent did it increase productivity?</p> <p>4. To what extent did it improve product quality?</p> <p>5. To what extent did it increase profits?</p>	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table>	0	1	2	3	4	5	6	7	8	9																																																		
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<p>Would you have missed this information if not for the NASA source? Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>Does there seem to be more information in the NASA file on this subject than in other available sources? Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>Your signature _____</p>	<p>Date _____</p>																																																												

Evaluation of Search Results by Clients

Search results are sent to clients with a form listing the accession numbers of cited documents and requesting that an evaluation of each abstract be made. The following are the options available to the client:

1. "This abstract is related to my interest as represented by the question statement."
2. "This abstract is not related to the question and I do not want to continue receiving abstracts of similar content."
3. "This abstract is not related to the interest as represented by the question statement, but is related to other interests of mine and I do want to continue receiving abstracts of similar content."

Because the evaluation form is also the full document order form, the quantity of abstracts evaluated by the KASC client is probably greatly influenced by his document requirements. Abstracts for which evaluations were received during the current quarter provided the monthly relevancy ratios presented in Table 4-4.

Table 4-4. Relevancy Percentage of Evaluated Abstracts

	June	July	August
Current Awareness	70	75	73
Retrospective	58	64	59

Client Contact

During this quarter 74 direct contacts were made by KASC staff and Engineering consultants. Twenty-five of these contacts related to the phrasing of new profiles, and 49 related to questions already in the system. The 74 contacts were with 36 customer organizations.

Aids to Marketing

The analysis Section assisted in the marketing efforts of the RDC project during the reporting period in the following ways:

1. Preparation of three sample profile results, designed for particular company interests, to be included in marketing brochures.
2. Preparation of sample material about the analysis, strategy preparation and review of a NASA base question.
3. Preparation of sample material for September's RDC Workshop and for marketing, about the analysis, strategy preparation and results of Chemical Condensates Tape Search, and Chemical Titles Search.

Document Number _____ Company Code _____ Question Number _____

TO: Document Requester

After using the information in the attached document, please fill out and return this questionnaire in the enclosed envelope. Your answers will assist us in improving our service to you and in preparing management reports.

1. May we reveal that this document was of interest to your company? If the answer is "No", we will use the answers to the following questions in a statistical summary relating document source, subject area, etc. to value criteria with no reference to the name of the company which evaluated it.

YES NO

Please grade your replies from 1 to 9 using the appropriate spaces, with 1 indicating none or the smallest extent and 9 the greatest extent.

- 2. After you examined the document to what extent did you consider it of use to you? If of no use, you need only answer question 15 and 16
- 3. To what extent did specific data such as temperature, properties, rates or test results make the document useful to you or did it link variables together in an applicable way?
- 4. How useful was the described mechanism, process, material or technique to you?
- 5. To what extent was testing or experimentation modified because of this information?
- 6. To what extent did the information assist in performing research?
- 7. Did the information usefully add to your knowledge?

1	2	3	4	5	6	7	8	9

Was the information beneficial to your company in relation to the following:

- 8. To what extent did it reduce costs?
- 9. To what extent did it increase productivity?
- 10. To what degree did it improve product quality?
- 11. To what extent did it increase profits?
- 12. Estimate yearly savings \$ _____
- 13. If none of the above apply, in what other way was the document of use? For example, "for reference file" _____, "for other research interests" _____, "for future use" _____ (Check if applicable)
- 14. Is it probable that you would miss this information if not for the NASA source?
- 15. Does there seem to be more information in the NASA literature on this subject than in other available sources? If "No", what other source is better? _____
- 16. Have you any suggestions or comments in regard to the service or the questionnaire? If so, you may write them on the back of this sheet.

YES NO

YES NO

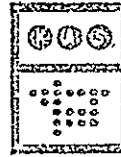
APPENDIX 4-I

Your signature _____ Date _____

Return to KAS Center, LIS Building, 135 N. Bellefield Avenue, Pittsburgh, Pennsylvania 15213
Attention: Mrs. E. P. Hartner

THE KNOWLEDGE AVAILABILITY SYSTEMS CENTER

UNIVERSITY OF PITTSBURGH • PITTSBURGH, PENNSYLVANIA 15213 • PHONE 621-3500



June 19, 1969

We are starting a new program to measure the impact of our technology transfer service on our clients' technical activities. For this purpose we plan to use the attached questionnaire. May we have your permission to send a copy of it to each engineer who is concerned with the questions we are now reviewing for your company?

Thank you very much for your cooperation in this matter.

Very truly yours,

A handwritten signature in cursive script that reads "Leonard S. Lang".

Leonard S. Lang
Associate Analyst

LSL:pec

Enclosure

THE KNOWLEDGE AVAILABILITY SYSTEMS CENTER

UNIVERSITY OF PITTSBURGH • PITTSBURGH, PENNSYLVANIA 15213 • PHONE 621-3500



July 10, 1969

Miss M. M. Sutton, Librarian
Research Center
Johnson & Johnson
New Brunswick, New Jersey 08902

Dear Miss Sutton:

Enclosed are nine questionnaires covering nine documents you ordered for six of the questions we are now searching for you. Abstracts of these documents also are attached. In each case, will you please ask the person concerned with the question to fill out the questionnaire? Several extra blanks are enclosed in case you wish to evaluate some other documents which we retrieved for you.

Thank you for your cooperation in this matter.

Very truly yours,

A handwritten signature in cursive script that reads "Leonard S. Lang".

Leonard S. Lang
Associate Information Analyst

/dd

Enclosures

Appendix 4-III