NASA/DoD Aerospace Knowledge Diffusion Research Project

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Summary Report to Phase 1 Respondents Including Frequency Distributions

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THE NASA/DOD AEROSPACE KNOWLEDGE DIFFUSION RESEARCH PROJECT

Report to Phase One Respondents

Introduction

This project, started in 1989, is designed to explore the diffusion of scientific and technical information (STI) throughout the aerospace industry. The increased international competition and cooperation in the industry promises to significantly affect the STI demands of U.S. aerospace engineers and scientists. Therefore, it is important to understand the aerospace knowledge diffusion process itself and its implications at the individual, organizational, national and international levels.

The project is planned in four phases. Phase 1, reported here, is designed to study the information-seeking methods of U.S. aerospace engineers and scientists. Phase 2 is concerned primarily with the transfer of STI in government and industry and the role of librarians and technical information specialists in that transfer. Phase 3 looks at the use of STI in the academic aerospace community. Phase 4 will examine knowledge production, use, and transfer of STI among non-U.S. aerospace organizations and aerospace engineers and scientists.

Part I

Data Collection Methods

In this initial phase of the study, we used three self-administered mailed questionnaires. The respondents' names were randomly drawn from the membership list of the American Institute of Aeronautics and Astronautics (AIAA) and divided into three groups, one for each questionnaire. In Phase 1, we received responses from 3946 AIAA members. The adjusted response rates for the three questionnaires were: Questionnaire One, 67 percent; Questionnaire Two, 63 percent; and Questionnaire Three, 64 percent. The data were collected over a ten month period beginning in May, 1989 and extending to February, 1990.

Description of the Participants

We found that our participants were highly educated. Less than one percent did not have at least a Bachelor's degree. We found that 32 percent had a doctorate and 39 percent had a master's degree. Most worked in an industrial setting (51 percent). The next largest employer (22 percent) was government agencies. Twelve percent of the AIAA members in the sample were working in an academic setting.

The years of professional work experience were broadly spread. Twenty-seven percent of the respondents had ten or fewer years experience. Twenty-one percent had between 11 and 20 years experience and 28 percent had 21 to 30 years experience. About one-quarter (22 percent) had more than 30 years experience.

Most respondents (84 percent) reported that they had been trained as engineers, but only 67 percent classify their current duties as engineering in nature. Twelve percent had been trained as scientists. Less than five percent had neither form of training, but almost a quarter no longer considered their primary duties as engineering or science. The bulk of these respondents described their work as administrative, particularly "technical administrative/management in the profit sector."

Over 80 percent of AIAA members received some federal funding for their research. The federal government supplied the largest portion of research funds for 75 percent of the survey respondents. Private industry supplied about one-fifth of research funds.

Part II

The First Questionnaire

There were 2016 AIAA members who returned the first questionnaire. The questions focused on four information sources used by engineers and scientists: conference and meeting papers, journal articles, in-house technical reports and government technical reports. Most respondents used all four information sources. Over half the participants rated each source as important for their professional duties.

Use and Importance of Information Sources (percents)

Information Sources	Users	Important
Journal Articles	79.4	52.6
In-House Technical Reports	81.0	67.9
Government Technical Reports	79.3	55.2
Conference/Meeting Papers	79.7	54.6

The factors that influenced use of particular information sources varied slightly for each source, but accessibility, relevance and technical quality or reliability were the most important factors for all four information sources. Cost was not an important factor for most of the AIAA members when choosing information sources.

Non-users tended to rate all information sources lower than users did. The most marked differences were reflected in the ratings of accessibility and relevance. Non-users tended to rate each source as substantially less relevant than users and found the sources to be less accessible than users. It is probable that those who do not use a source regularly find it more difficult to access them when they do use them.

The respondents were asked to describe their most important project over the last six months. More respondents (36 percent) reported working on a research project than any other type. A development project was most important for 21 percent. Additionally, most respondents indicated that the primary reason they used one of the four information sources was for research.

We asked respondents to describe the steps they took in locating the information they needed to complete the most important technical project they had finished during the last six months. The survey participants indicated they tended to begin with their personal store of information sources, talk to colleagues informally, and then speak with a supervisor or other key person in their organization. They reported using the library only on the fifth or subsequent step.

Ranking of Steps Taken In Locating Information

Step	Average Rank
Used personal store of technical information	7.59
Discussed the problem with a colleague in organization	7.11
I discussed the problem with a key person in the organization	6.89
Discussed problem with my supervisor	6.68
Intentionally searched library resources	6.16
Searched a data base or had a data base searched	6.13
Discussed the problem with a colleague outside the organization	6.01
Asked a librarian in the organization	5.27
Asked a librarian outside the organization	4.12

Yet most of the participants (65 percent) considered the library to be important. When they did not use a library, it was usually because their needs could be more easily met some other way. The more informal and more immediate information sources were turned to first by the engineers and scientists before using the formal sources.

The Second Questionnaire

The second group (975 respondents) was also asked about their use and rating of various STI sources. Most respondents reported using DoD technical reports (59 percent) and NASA technical reports (74 percent). A smaller portion used AGARD technical reports (32 percent) and technical translations (25 percent). When asked to rate the importance of information sources for performing their professional duties, the AIAA members tended to rate the reports they used the most often as the most important. NASA technical reports and DoD reports were rated important by 51 percent and 41 percent, respectively.

Use and Importance of Information Sources (percents)

Information Source	*Users*	*Important*
NASA Technical Reports	73.5	51.0
DoD Technical Reports	58.7	40.9
AGARD Technical Reports	32.2	16.8
Technical Translations	24.5	8.3

Research was the primary reason cited for using these information sources. Management accounted for less than a quarter of the use of the various types of STI, and education accounted for about one-fifth of the use of the information sources. The primary reason cited for not using an information source was the lack of relevance to the respondent's research. Secondary reasons were problems with accessibility and availability. DoD, NASA and AGARD technical report use was influenced by accessibility and relevance.

The participants reported that they found out most often about the NASA and DoD technical reports through citations in reports, journals or conference papers and that they obtained the reports most often by requesting them through the library. Non-users of NASA technical reports gave them much lower ratings in relevance, comprehensiveness and accessibility than users did. Non-users of DoD technical reports did not rate the reports much lower on most qualities than users did. There were much lower marks among non-users on accessibility, however. Surprisingly, non-users rated the DoD reports higher on ease of use than did users, indicating that once a report is obtained, it can be easily used. Actually obtaining the report was the more difficult problem.

The Third Questionnaire

The third questionnaire focused on the participants' use of various bibliographies, databases and other sources of technical information, including STAR, NASA-SP 7037, CAB, GRA&I, RECON, DROLS, and NTIS File. There were 955 respondents. Most respondents did not extensively use many of the data sources we examined. Respondents who did not use the various data sources were, for the most part, not familiar with them.

Use and Familiarity With Aerospace Information Databases (percents)

Sources	Familiar With Source	Using Source
STAR	41.1	22.4
NTIS	28.2	17.3
RECON	14.8	11.8
NASA SP-7037	15.3	6.4
GRA&I	6.8	3.8
DROLS	5.0	3.7
CAB	5.3	1.7

Respondents who used these information sources reported intermediaries often help them use the sources. Of the 12 percent who used RECON, 47 percent did all searches through intermediaries and 33 percent reported most RECON searches were done through intermediaries. Of those using DROLS (four percent), 53 percent used only intermediaries and 27 percent used intermediaries for most searches. Of the AIAA members who used NTIS File (17 percent), 54 percent reported using an intermediary for all searches and another 24 percent used an intermediary for most searches. The respondents tended to mention inaccessibility and a reliance on others to do these searches as the principal reasons they did not use these databases.

Most respondents (60 percent) rated the results of federally-funded aerospace R&D as very important, and those who did not use it say it was not relevant for the work they did. Problems cited in obtaining federally-funded aerospace R&D related to difficulty in obtaining the information and limitations in the amount of time available to find the information.

Part III

Summary

Phase 1 of the NASA/DoD Aerospace Knowledge Diffusion Research Project is concerned primarily with the way aerospace engineers and scientists obtain and rate the information they need and use for their work. Some broad patterns have emerged.

First, the AIAA members tended to use the STI they gather as part of their research projects. Most of the participants were involved in a major project within the last six months that involved research, design or development. STI is, therefore, crucial to the R & D process in the aerospace industry. Second, our respondents tended to begin with an informal search for information and to use their colleagues as an important information source. They turned to information specialists and librarians primarily when the use of databases was needed. Most or all database searches were conducted through intermediaries. Finally, accessibility, relevance, and technical quality were the most important factors affecting the use of information sources used by the AIAA members. Non-users gave the information sources lower marks in accessibility and relevance.

The study participants tended to regard most of the information sources we examined as important, but they pointed out some barriers to the use of databases in locating STI. Since AIAA members turn to immediate sources first in their searches, we can assume they feel more comfortable with those sources. Sources for which assistance is needed are not as widely used nor as highly regarded. Difficulty of use limits the value of these sources.

ADDITIONAL INFORMATION ON THIS PROJECT

Phase 2 of this project focuses on the role of industry and government information intermediaries, (librarians) and technical information specialists in the transfer of STI. Intermediaries from government and industry libraries with aerospace collections from across the United States and Canada were asked to evaluate many of the information sources reviewed by the AIAA members. In addition, they provided us with information about how information sources are used in their libraries. Analysis of these data is currently being conducted.

Phase 3 of this project focuses on the academic sector of the aerospace community. Questionnaires were sent to undergraduate engineering students and to faculty in aerospace-related departments. Additionally, questionnaires were sent to academic librarians in schools with aerospace programs. Each group was asked to evaluate aerospace STI and how STI is used. Analysis of these data is underway.

Phase 4 began in summer, 1990 with a pilot study in Europe and Japan. A study of aerospace engineers and scientists in Britain is scheduled to begin in February, 1991. Additional surveys in NATO countries and Japan are planned.

We have published a number of project reports and papers, a list of which is included with this report. If you would like additional information about any phase of this study or copies of the reports and papers that examine these data in more detail, please contact:

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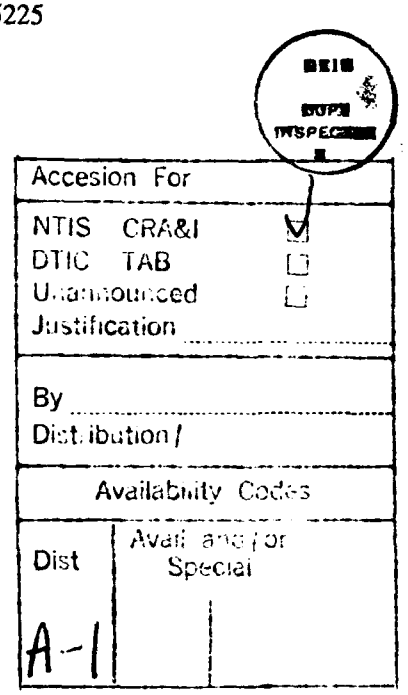
We welcome your comments and suggestions.



NASA/DoD AEROSPACE KNOWLEDGE DIFFUSION RESEARCH PROJECT PUBLICATIONS

Reports

Pinelli, Thomas E.; Myron Glassman; Walter E. Oliu; and Rebecca O. Barclay. **Technical Communications in Aeronautics: Results of an Exploratory Study.** Washington, DC: National Aeronautics and Space Administration. NASA TM-101534, **Report 1, Part 1.** February 1989. 106 p. (Available from NTIS, Springfield, VA; 89N26772.)

Pinelli, Thomas E.; Myron Glassman; Walter E. Oliu; and Rebecca O. Barclay. **Technical Communications in Aeronautics: Results of an Exploratory Study.** Washington, DC: National Aeronautics and Space Administration. NASA TM-101534, **Report 1, Part 2.** February 1989. 84 p. (Available from NTIS, Springfield, VA; 89N26773.)

Pinelli, Thomas E.; Myron Glassman; Rebecca O. Barclay; and Walter E. Oliu. **Technical Communications in Aeronautics: Results of an Exploratory Study -- An Analysis of Managers' and Nonmanagers' Responses.** Washington, DC: National Aeronautics and Space Administration. NASA TM-101625, **Report 2.** August 1989. 58 p. (Available from NTIS, Springfield, VA; 90N11647.)

Pinelli, Thomas E.; Myron Glassman; Rebecca O. Barclay; and Walter E. Oliu. **Technical Communications in Aeronautics: Results of an Exploratory Study -- An Analysis of Profit Managers' and Nonprofit Managers' Responses.** Washington, DC: National Aeronautics and Space Administration. NASA TM-101626, **Report 3.** October 1989. 71 p. (Available from NTIS, Springfield, VA; 90N15848.)

Pinelli, Thomas E.; John M. Kennedy; and Terry F. White. **Summary Report to Phase 1 Respondents.** Washington, DC: National Aeronautics and Space Administration. NASA TM-102772, **Report 4.** January 1991. 8 p. (Available from NTIS, Springfield, VA.)

Pinelli, Thomas E.; John M. Kennedy; and Terry F. White. **Summary Report to Phase 1 Respondents Including Frequency Distributions.** Washington, DC: National Aeronautics and Space Administration. NASA TM-102773, **Report 5.** January 1991. 53 p. (Available from NTIS, Springfield, VA.)

Pinelli, Thomas E. **The Relationship Between the Use of U.S. Government Technical Reports by U.S. Aerospace Engineers and Scientists and Selected Institutional and Sociometric Variables.** Washington, DC: National Aeronautics and Space Administration. NASA TM-102774, **Report 6.** January 1991. 350 p. (Available from NTIS, Springfield, VA.)

Papers

Pinelli, Thomas E.; Myron Glassman; Rebecca O. Barclay; and Walter E. Oliu. **The Value of Scientific and Technical Information (STI), Its Relationship to Research and Development (R&D), and Its Use by U.S. Aerospace Engineers and Scientists. Paper 1.** Paper presented at the European Forum "External Information: A Decision Tool" 19 January 1990, Strasbourg, France.

Blados, Walter R.; Thomas E. Pinelli; John M. Kennedy; and Rebecca O. Barclay. **External Information Sources and Aerospace R&D: The Use and Importance of Technical Reports by U.S. Aerospace Engineers and Scientists. Paper 2.** Paper prepared for the 68th AGARD National Delegates Board Meeting, 29 March 1990, Toulouse, France.

Kennedy, John M. and Thomas E. Pinelli. **The Impact of a Sponsor Letter on Mail Survey Response Rates. Paper 3.** Paper presented at the Annual Meeting of the American Association for Public Opinion Research, Lancaster, PA, May 19, 1990.

Pinelli, Thomas E. and John M. Kennedy. **Aerospace Librarians and Technical Information Specialists as Information Intermediaries: A Report of Phase 2 Activities of the NASA/DoD Aerospace Knowledge Diffusion Research Project. Paper 4.** Paper presented at the Special Libraries Association, Aerospace Division - 81st Annual Conference, Pittsburgh, PA, June 13, 1990.

Pinelli, Thomas E.; Rebecca O. Barclay; John M. Kennedy; and Myron Glassman. **Technical Communications in Aerospace: An Analysis of the Practices Reported by U.S. and European Aerospace Engineers and Scientists. Paper 5.** Paper presented at the International Professional Communication Conference (IPCC), Post House Hotel, Guilford, England, September 14, 1990.

Pinelli, Thomas E. and John M. Kennedy. **Aerospace Knowledge Diffusion in the Academic Community: A Report of Phase 3 Activities of the NASA/DoD Aerospace Knowledge Diffusion Research Project. Paper 6.** Paper presented at the 1990 Annual Conference of the American Society for Engineering Education - Engineering Libraries Division, Toronto, Canada, June 27, 1990.

Pinelli, Thomas E. and John M. Kennedy. **The NASA/DoD Aerospace Knowledge Diffusion Research Project: The DoD Perspective." Paper 7.** Paper presented at the Defense Technical Information Center (DTIC) 1990 Annual Users Training Conference, Alexandria, VA, November 1, 1990.

FREQUENCY DISTRIBUTIONS OF RESPONDENTS' ANSWERS

The following tables reflect the actual number of respondents answering each question in a specific way rather than the percentages of respondents choosing an answer. For most questions, all respondents were eligible to respond. However, for some questions, only respondents answering a previous question in a specific way were eligible. In some cases, a large number of respondents did not answer a question, although eligible to do so. Most of these questions had yes-no answers and it is safe to assume that "no answer" means no or did not use the information sources. Using actual frequency of response should provide readers with a clearer picture of the meaning of the data. Question order (and in some cases, question text) has been slightly modified for ease of presentation and reader use. Any reader with particular interest in the data can contact the authors for additional information and assistance.

The supplementary questions were sent six months later to every respondent in the sample. Not all of the original respondents completed the supplementary questionnaire. The frequencies can be viewed either as one set or as three sets. Here, for ease of use, they have been shown as three sets, reflecting the original three groups of respondents. Readers may wish to add them together for review. Again, requests for additional information and assistance in data interpretation are welcome.

Survey 1

2016 Respondents

SURVEY 1

Which of the following information sources do you use in performing your present professional duties?

	Yes	No	No Answer
Conference/Meeting Papers	1607	264	144
Journal Articles	1600	273	142
In-House Technical Reports	1633	225	157
Government Technical Reports	1599	270	146

In terms of performing your present professional duties, how important are the following information sources?

	Very Important 1	2	3	4	Very Unimportant 5
Conference/Meeting Papers	505	554	491	246	143
Journal Articles	509	510	538	238	143
In-House Technical Reports	757	551	310	154	153
Government Technical Reports	438	631	495	235	137

In the past six months, approximately how many times did you use each of the following information sources in performing your present professional duties?

	0 Times	Once	Twice	3-10	11 Plus
Conference/Meeting Papers	273	226	262	741	363
Journal Articles	290	198	234	727	407
In-House Technical Reports	230	136	217	804	478
Government Technical Reports	292	252	235	774	308

Do you use the following types or kinds of information in performing your present professional duties?

	Yes	No	No Answer
Basic Scientific and Technology Information	1752	213	50
In-House Technical Data	1734	220	62
Computer Programs	1560	389	67
Technical Specifications	1369	565	82
Product & Performance Characteristics	1416	528	72

To what extent was the use of Conference/Meeting Papers, Journal Articles, In-House Technical Reports and Government Technical Reports influenced by:					
Conference/Meeting Papers	**Greatly Influenced 1**	**2**	**3**	**4**	**Not Influenced 5**
Accessibility	502	616	407	128	60
Ease of Use	274	618	499	215	103
Expense	132	259	439	430	446
Familiarity or Experience	327	683	425	185	91
Technical Quality or Reliability	409	694	434	118	59
Comprehensiveness	240	600	548	231	85
Relevance	572	671	319	116	29
Journal Articles					
Accessibility	519	616	337	115	51
Ease of Use	268	629	510	183	66
Expense	158	294	437	377	393
Familiarity or Experience	322	660	443	158	77
Technical Quality or Reliability	610	648	304	70	35
Comprehensiveness	325	626	473	189	43
Relevance	500	631	383	114	30
In-House Technical Reports					
Accessibility	747	489	234	108	92
Ease of Use	408	587	391	171	109
Expense	255	209	280	290	631
Familiarity or Experience	499	610	329	139	89
Technical Quality or Reliability	456	663	443	126	51
Comprehensiveness	334	611	502	210	79
Relevance	797	555	268	78	34
Government Technical Reports					
Accessibility	468	538	434	205	78
Ease of Use	227	616	543	242	91
Expense	152	237	459	378	488
Familiarity or Experience	289	669	487	194	82
Technical Quality or Reliability	407	672	474	132	43
Comprehensiveness	309	629	547	181	55
Relevance	525	668	388	112	31

SURVEY 1

In the past six months, what percentage of Conference/Meeting Papers, Journal Articles, In-House Technical Reports and Government Technical Reports were used for:					
Conference/Meeting Papers	**0%**	**1-25%**	**26-50%**	**51-75%**	**76-100%**
Education	84	410	319	70	113
Research	40	192	364	163	499
Management	139	253	181	46	82
Other	128	159	44	18	29
Journal Articles					
Education	62	370	338	87	152
Research	38	216	376	150	461
Management	137	232	172	31	65
Other	128	133	56	14	27
In-House Technical Reports					
Education	122	398	240	28	51
Research	50	203	335	150	504
Management	117	235	240	71	132
Other	127	145	61	20	61
Government Technical Reports					
Education	102	374	242	43	73
Research	41	182	352	144	541
Management	129	229	202	51	97
Other	125	145	64	15	48

SURVEY 1

In the past six months, approximately what percentage of Basic Scientific and Technology Information, In-House Technical Data, Computer Programs, Technical Specifications, and Product and Performance Characteristics were found in the following information sources?

Basic Scientific and Technology Information	**0%**	**1-25%**	**26-50%**	**51-75%**	**76-100%**
Conference/Meeting Papers	117	800	441	77	27
Journal Articles	113	760	447	95	72
In-House Technical Reports	150	633	406	155	116
Government Technical Reports	136	878	346	43	21
In-House Technical Data					
Conference/Meeting Papers	256	582	164	30	11
Journal Articles	276	545	147	17	12
In-House Technical Reports	56	297	328	184	662
Government Technical Reports	249	509	246	28	16
Computer Programs					
Conference/Meeting Papers	470	278	125	25	19
Journal Articles	448	307	116	27	51
In-House Technical Reports	254	264	201	85	429
Government Technical Reports	406	331	145	20	46
Technical Specifications					
Conference/Meeting Papers	358	278	83	12	5
Journal Articles	352	250	86	8	19
In-House Technical Reports	127	253	326	99	300
Government Technical Reports	181	302	309	80	149
Product and Performance Characteristics					
Conference/Meeting Papers	313	401	125	12	13
Journal Articles	292	371	132	32	53
In-House Technical Reports	150	265	310	116	280
Government Technical Reports	238	370	246	47	47

SURVEY 1

Does your organization have a library and/or technical information center?	
Yes	1738
No	171
No Answer	107

How far from it are you?	
Less than 1/8 mile (220 yards)	820
1/8+ to 1/4 mile (1 block)	258
1/4+ to 1/2 mile	184
Over 1/2 to 1 mile	141
1 to 2 miles	79
Over 2 to 5 miles	72
6 to 19 miles	70
20 to 100 miles	38
Over 100 miles	35

How many times in the past six months have you:	0 Times	Once	Twice	3-10	11 Plus
Visited a library/technical information center	293	126	184	756	487
Sought the help of a staff member of L/TI	491	290	313	510	116
Been offered assistance by a staff member	729	212	206	380	86
Requested something in writing or electronically	590	235	230	466	145
Requested something by telephone	807	212	210	325	55
Requested something through a proxy	1025	131	102	192	46
Requested something or had a library request something from some other library	1495	68	18	8	427

Which of the following statements best describes any reasons you did NOT visit or request something from a library or technical information center in the past six months.	Yes	No
Had no information needs	63	78
My information needs were more easily met some other way	126	25
Tried them once or twice before but they were not able to help me	16	110
The lib/tech info center is physically too far away from where I work	39	93
The lib/tech info center staff is not cooperative or helpful	10	116
The lib/tech info center does not understand my information needs	17	109
The lib/tech info center does not have the information I need	39	87
I have my own personal library and do not need a lib/tech info center	50	80
The lib/tech info center is too slow in getting the information I need	26	99
We have to pay to use the lib/tech info center	8	118
We are discouraged from using the lib/tech info center	2	124

SURVEY 1

In terms of performing your present professional duties how important is a library or technical information center?				
Very Important 1	2	3	4	Very Unimportant 5
751	521	394	202	76

In performing your present professional duties how do you view your use of the following information technologies?			
	I already use it	I don't use it but may in the future	I don't use it and doubt if I will
Electronic Databases	1109	695	136
Electronic Networks	829	835	241
Laser Disc/Video Disc/CD-ROM	146	1212	524
Micrographics and Microfilms	1229	380	322
Teleconferencing	974	642	309
Video Conferencing	388	1014	500
Fax or Telex	1725	174	49
Electronic Bulletin Boards	568	965	371
Electronic Mail	1035	714	178
Computer Cassettes/Cartridge Tapes	764	642	490
Floppy Discs	1607	241	93
Desktop/Electronic Publishing	1048	665	204
Video Tapes	1170	541	218
Motion Picture Films	548	570	796
Audio Tapes and Cassettes	716	623	577

SURVEY 1

In completing your most important technical project during the past six months, what steps did you follow in looking for the information you needed to complete the project, task or to solve the problem?	1st Step	2nd Step	3rd Step	4th or More	Not Used
I searched a database or had it searched for me	195	119	124	460	1026
I checked with a librarian/tech info specialist outside my organization	21	34	34	320	1532
I checked with a librarian/tech info specialist in my organization	50	68	73	416	1317
I consulted library sources (conference/meeting papers, journal articles, technical reports)	111	217	204	620	731
I spoke with a key person outside my organization to whom I usually look for new information	86	154	158	533	970
I spoke with a key person in my organization to whom I usually look for new information	183	224	232	368	898
I discussed the problem with my supervisor	247	140	127	324	1097
I discussed the problem informally with a colleague(s)	203	433	323	375	532
I used my personal store of technical information, including sources I keep in my office	588	267	274	354	371

Which of the following best characterises the most important project, task or problem you have worked on in the past six months?	
Educational	77
Research	674
Design	364
Development	398
Manufacturing	19
Production	35
Management	230
Computer Applications	89

Were government technical reports used to complete the task?	
Yes	1205
No	700
No Answer	110

At what stage in the technical project or task or in solving the problem did you use the government technical report(s)?	Yes	No
Throughout the duration of the technical project	832	177
Near the beginning	521	115
Near the middle	272	217
Near the end	177	271

SURVEY 1

How did you find out about the government technical report(s)?

	YES	NO
I used my personal store of technical information	1026	75
By intentional search of library resources	613	283
By asking a colleague in my organization	712	200
By asking a colleague outside my organization	616	261
By asking a librarian or technical information specialist	376	411
By asking my supervisor	281	454
Someone informed me without my asking	294	462
By accident, browsing or looking for other information	323	428
I searched a database or had it searched for me	547	327

To what degree was the information found in the government technical report(s) effective or efficient in completing the technical task or in solving the problem?

Extremely Effective 1	2	3	4	Extremely Ineffective 5
170	514	484	75	6
Extremely Efficient 1	**2**	**3**	**4**	**Extremely Inefficient 5**
94	440	593	102	13

SURVEY 1

Which is the highest level of education that you have completed?	
No Degree	10
Technical or Vocational Degree	9
Bachelor's Degree	543
Master's Degree	774
Doctorate	503
Postdoctorate	115
Other	26

Compare your educational preparation and present duties:			
Educational Preparation		**Present Professional Duties**	
Engineer	1627	Engineer	1325
Scientist	235	Scientist	168
Other	99	Other	470

The type of organisation where you work:			
Academic	257	Industrial	1044
Government (DoD)	202	Not-for-Profit	84
Government (NASA)	200	Retired or Not Employed	28
Government (other)	52	Other	116

What is your primary professional duty?			
Academic/Teaching	202	Technical Administrative/Management (govt., not-for-profit)	219
Research	328	Design/Development/RDTE	556
Administrative/Management (for profit)	73	Manufacturing/Production	20
Technical Administrative/Management (for profit)	409	Marketing/Sales	40
Administrative/Management (govt., not-for-profit)	42	Services/Maintenance	7
		Other	85

What is your principal AIAA interest group?			
Aerospace Sciences	428	Space & Missile Systems	469
Aircraft Systems	267	Structures, Design & Test	212
Information & Logistics Systems	66	Other	241
Propulsion & Energy	282		

SURVEY 1

Which of the following best characterizes your area of work or characterizes the application of your work?			
Aeronautics	494	Mathematical & Computer Sciences	85
Astronautics	208	Materials & Chemistry	38
Engineering	800	Physics	54
Geosciences	12	Space Sciences	77
Life Sciences	10	Other	198

Is any of your current work funded by the Federal Government?	
Yes	1631
No	337
No Answer	48

Who supplies the largest proportion of funds for your current reseach/project(s)?	
Federal Government	1461
Private Industry	382
Educational Institution	49
Not-For-Profit Institution	11
Other	46

Survey 1 Supplementary Questions

2016 Eligible Respondents

972 Did Not Respond

SURVEY 1

Please rate each of the information sources (Conference/Meeting Papers, Journal Articles, In-House Technical Reports, NASA Technical Reports and DoD Technical Reports) on their accessibility, ease of use and expense.

Accessibility	**Very Accessible 1**	**2**	**3**	**4**	**Not At All Accessible 5**
Conference/Meeting Papers	132	306	290	196	13
Journal Articles	403	394	110	34	1
In-House Technical Reports	298	222	129	137	35
NASA Technical Reports	180	283	253	133	11
DoD Technical Reports	60	170	220	219	39
Ease of Use	**Very Easy To Use 1**	**2**	**3**	**4**	**Not At All Easy To Use 5**
Conference/Meeting Papers	148	390	309	78	10
Journal Articles	194	449	227	65	4
In-House Technical Reports	170	355	231	51	5
NASA Technical Reports	145	432	233	36	8
DoD Technical Reports	54	268	285	72	12
Expense	**Reasonably Priced 1**	**2**	**3**	**4**	**Too Expensive 5**
Conference/Meeting Papers	139	237	269	199	61
Journal Articles	223	304	254	109	22
In-House Technical Reports	490	143	98	30	6
NASA Technical Reports	294	276	203	31	8
DoD Technical Reports	212	209	193	43	8

Accessibility, that is, the ease of getting to the information source.
Ease of Use, that is, the ease of comprehending or utilizing the information.
Expense, that is, low cost in comparison to other sources.

SURVEY 1

Please rate each of the information sources (Conference/Meeting Papers, Journal Articles, In-House Technical Reports, NASA Technical Reports and Dod Technical Reports on their technical quality or reliability, comprehensiveness and relevance.

Technical Quality or Reliability	**Excellent 1**	**2**	**3**	**4**	**Poor 5**
Conference/Meeting Papers	57	328	426	113	10
Journal Articles	253	517	151	21	1
In-House Technical Reports	89	353	309	52	7
NASA Technical Reports	191	429	206	27	3
DoD Technical Reports	60	275	294	60	4
Comprehensiveness	**Comprehensive 1**	**2**	**3**	**4**	**Not Comprehensive 5**
Conference/Meeting Papers	49	247	391	208	39
Journal Articles	127	409	291	102	11
In-House Technical Reports	91	281	297	119	22
NASA Technical Reports	134	397	254	63	8
DoD Technical Reports	60	236	297	89	12
Relevance	**Very Relevant 1**	**2**	**3**	**4**	**Not At All Relevant 5**
Conference/Meeting Papers	108	308	362	146	9
Journal Articles	141	382	309	104	6
In-House Technical Reports	197	349	198	60	6
NASA Technical Reports	145	366	284	54	6
DoD Technical Reports	90	255	271	75	4

Technical Quality or Reliabilty, that is, the information sources were expected to be the best in terms of quality, accuracy and reliability.

Comprehensiveness, that is, the expectation that the information source would provide broad coverage of the available knowledge.

Relevance, that is, the expectation that a high percentage of the information retrieved from the source would be used.

Survey 2

975 Respondents

SURVEY 2

Which of the following information sources do you use in performing your present professional duties?			
	Yes	No	No Answer
Conference/Meeting Papers	820	117	38
Journal Articles	831	105	39
Technical Translations	239	520	216
Technical Reports - AGARD	314	478	182
Technical Reports - DoD	572	283	120
Technical Reports - NASA	717	184	74

In terms of performing your present profession duties, how important is each of the following information sources?					
	Very Important 1	2	3	4	Not at all Important 5
Conference/Meeting Papers	306	265	207	103	75
Journal Articles	307	252	221	98	71
Technical Translations	22	48	129	217	425
Technical Reports - AGARD	47	94	143	165	393
Technical Reports - DoD	177	192	192	120	220
Technical Reports - NASA	219	257	197	110	150

What percentage of the following were used in paper and what percentage in microfiche?					
Percentage in Paper	**0%**	**1-25%**	**26-50%**	**51-76%**	**76-100%**
Technical Translations	2	5	13	3	120
AGARD Technical Reports	0	4	15	4	187
DoD Technical Reports	0	9	30	20	420
NASA Technical Reports	1	8	36	22	533
Percentage in Microfiche					
Technical Translations	6	7	15	1	17
AGARD Technical Reports	9	10	12	5	17
DoD Technical Reports	13	48	34	6	25
NASA Technical Reports	14	51	39	11	20
What percentage of the following were used for education, research or management?					
Percentage for Education					
Technical Translations	3	13	14	0	7
AGARD Technical Reports	2	11	32	2	9
DoD Technical Reports	5	39	39	4	14
NASA Technical Reports	4	53	73	10	29
Percentage for Research					
Technical Translations	1	6	17	7	111
AGARD Technical Reports	1	11	27	16	153
DoD Technical Reports	0	29	55	27	311
NASA Technical Reports	2	25	74	38	391
Percentage for Management					
Technical Translations	4	6	11	0	6
AGARD Technical Reports	4	6	11	1	6
DOD Technical Reports	5	31	50	12	33
NASA Technical Reports	9	36	28	8	26

SURVEY 2

How often do you usually obtain physical access to AGARD Technical Reports, DoD Technical Reports and NASA Technical Reports from each of these sources?

AGARD Technical Reports	Frequently	Sometimes	Seldom	Never
AGARD sends them to me	16	16	31	151
The author sends them to me	10	34	44	125
I request them from the author	5	35	53	118
I request/order from my library	84	94	21	25
I request/order from NTIS	19	57	42	94
I get them from a colleague	29	96	50	45
They are routed to me by library	15	25	36	138
DoD Technical Reports				
DoD sends them to me	75	115	79	215
The author sends them to me	38	102	112	227
I request them from the a ıthor	20	134	147	174
I request/order from my library	174	193	79	41
I request/order from NTIS	65	133	116	159
I get them from a colleague	67	224	124	68
They are routed to me by library	29	61	104	271
NASA Technical Reports				
NASA sends them to me	107	145	106	240
The author sends them to me	53	168	127	247
I request them from the author	41	182	150	214
I request/order from my library	221	231	76	77
I request/order from NTIS	71	143	119	252
I get them from a colleague	88	291	135	84
They are routed to me by library	30	72	107	362

SURVEY 2

How would you rate AGARD Technical Reports, DoD Technical Reports and NASA Technical Reports on each of the following characteristics?

AGARD Technical Reports	Excellent	Good	Fair	Poor	No opinion
Quality of information	62	139	23	1	4
Precision/accuracy of data	45	151	25	1	7
Adequacy of data/documentation	36	131	50	6	4
Organization/format	45	109	63	5	5
Quality of graphics	29	113	66	17	5
Timeliness/currency	33	103	65	20	6
"Advancing the state of the art" in your discipline	34	92	73	22	4
DoD Technical Reports					
Quality of information	63	338	90	1	8
Precision/accuracy of data	50	340	91	5	15
Adequacy of data/documentation	35	263	172	17	12
Organization/format	42	252	171	24	10
Quality of graphics	38	206	186	62	8
Timeliness/currency	50	231	174	33	10
"Advancing the state of the art" in your discipline	55	209	178	39	12
NASA Technical Reports					
Quality of information	166	413	41	0	5
Precision/accuracy of data	164	389	65	0	8
Adequacy of data/documentation	115	359	128	14	6
Organization/format	118	361	131	7	7
Quality of graphics	122	348	123	26	7
Timeliness/currency	114	318	155	21	14
"Advancing the state of the art" in your discipline	138	286	153	24	11

SURVEY 2

To what extent has each of the following factors influenced your use of Technical Translations, AGARD Technical Reports, DoD Technical Reports and NASA Technical Reports?

Technical Translations	Greatly Influenced 1	2	3	4	Not Influenced 5
Accessibility	57	47	31	12	12
Ease of Use	23	55	47	17	14
Expense	8	20	40	32	53
Familiarity or Experience	31	40	44	19	21
Technical Quality or Reliability	27	52	51	16	9
Comprehensiveness	16	47	58	18	16
Relevance	46	60	34	7	8
AGARD Technical Reports					
Accessibility	57	72	51	21	22
Ease of Use	38	79	64	24	19
Expense	13	32	57	36	85
Familiarity or Experience	38	77	68	18	22
Technical Quality or Reliability	40	108	54	10	13
Comprehensiveness	42	106	59	8	9
Relevance	65	90	56	4	10
DoD Technical Reports					
Accessibility	156	197	90	25	24
Ease of Use	72	190	143	46	35
Expense	49	100	90	81	169
Familiarity or Experience	92	211	119	36	34
Technical Quality or Reliability	63	210	168	31	20
Comprehensiveness	51	193	186	42	20
Relevance	147	206	111	20	8
NASA Technical Reports					
Accessibility	262	230	83	17	29
Ease of Use	146	288	124	21	39
Expense	88	126	136	71	197
Familiarity or Experience	186	250	119	30	36
Technical Quality or Reliability	174	291	112	23	23
Comprehensiveness	134	274	157	27	27
Relevance	218	274	100	20	11

SURVEY 2

How often do you find out about AGARD Technical Reports, DoD Technical Reports and NASA Technical Reports from these sources?

AGARD Technical Reports	Frequently	Sometimes	Seldom	Never
Bibliographic database search	38	83	53	43
Announcement journal	43	56	58	63
Current awareness publication	16	40	58	98
Cited in a report/journal/ conference paper	79	105	28	11
Referred to me by colleague	50	101	46	27
Referred to me by librarian/ tech info specialist	17	52	58	90
Routed to me by library	15	29	39	135
By intentional search of library resources	53	99	36	30
By accident, by browsing, looking for other material	14	71	78	54
AGARD sends them to me	18	20	19	161
The author sends them to me	10	28	51	127
DoD Technical Reports				
Bibliographic database search	105	182	119	67
Announcement journal	57	142	128	142
Current awareness publication	37	87	141	193
Cited in a report/journal/ conference paper	157	221	82	26
Referred to me by colleague	126	210	106	42
Referred to me by librarian/ tech info specialist	46	117	155	151
Routed to me by library	38	66	106	255
By intentional search of library resources	120	181	115	61
By accident, by browsing, looking for other material	20	163	190	97
DoD sends them to me	67	104	71	232
The author sends them to me	35	97	106	230
NASA Technical Reports				
Bibliographic database search	147	188	128	117
Announcement journal	105	154	135	192
Current awareness publication	46	120	135	276
Cited in a report/journal/ conference paper	239	267	70	28
Referred to me by colleague	167	285	97	54
Referred to me by librarian/ tech info specialist	45	133	166	236
Routed to me by library	30	71	118	354
By intentional search of library resources	162	225	124	75
By accident, by browsing, looking for other material	33	220	224	111
NASA sends them to me	91	139	116	252
The author sends them to me	43	159	116	267

SURVEY 2

In the past six months, about how many times did you use Technical Translations, AGARD Technical Reports, DoD Technical Reports and NASA Technical Reports?				
	Once	Twice	3 to 10	11 Plus
Technical Translations	38	37	51	5
AGARD Technical Reports	54	53	74	9
DOD Technical Reports	51	71	235	67
NASA Technical Reports	63	95	287	76

In the past six months, if none, why did you not use Technical Translations, AGARD Technical Reports, DoD Technical Reports or NASA Technical Reports?		
Technical Translations	**Yes**	**No**
Not Available/Accessible	278	529
Not Relevant to my Research	366	441
Not Used in my Discipline	205	602
Not Reliable/Technically Inaccurate	27	780
Not Reliable/Language Inaccurate	47	760
Not Timely/Current	152	655
Takes Too Long to Get Them	214	593
AGARD Technical Reports		
Not Available/Accessible	212	525
Not Relevant to my Research	297	440
Not Used in my Discipline	181	556
Not Reliable/Technically Inaccurate	8	729
Not Timely/Current	44	693
Other	75	662
DoD Technical Reports		
Not Available/Accessible	127	336
Not Relevant to my Research	194	278
Not Used in my Discipline	85	387
Not Reliable/Technically Inaccurate	10	462
Not Timely/Current	33	439
Other	35	437
NASA Technical Reports		
Not Available/Accessible	64	277
Not Relevant to my Research	160	181
Not Used in my Discipline	86	255
Not Reliable/Technically Inaccurate	3	338
Not Timely/Current	7	334
Other	25	316

SURVEY 2

Which is the highest level of education that you have completed?			
No Degree	2	Doctorate	264
Technical or Vocational Degree	7	Postdoctorate	58
Bachelor's Degree	243	Other	13
Master's Degree	379		

Compare your educational preparation and present duties:			
Educational Preparation		**Present Professional Duties**	
An Engineer	803	An Engineer	610
A Scientist	104	A Scientist	86
Other	54	Other	219

Is the type of organization where you work:			
Academic	173	Industrial	476
Government (DoD)	103	Not-for-Profit	46
Government (NASA)	88	Retired or Not Employed	13
Government (other)	19	Other	47

What is your primary professional duty?			
Academic/Teaching	143	Tech Administrative/Management	
Research	140	(gov't not-for-profit)	88
Administrative/Management		Design/Development/RDTE	259
(profit sector)	36	Manufacturing/Production	8
Tech Administrative/Management		Marketing/Sales	17
(profit sector)	197	Service/Maintenance	4
Administrative/Management		Private Consultant	20
(gov't not-for-profit)	17	Other	33

What is your principal AIAA interest group?			
Aerospace Sciences	207	Space & Missile Systems	230
Aircraft Systems	118	Structures, Design & Test	102
Information & Logistics Systems	32	Other	99
Propulsion & Energy	166		

SURVEY 2

Which of the following best characterizes your area of work or the application of your work?			
Aeronautics	269	Mathematical & Computer Sciences	37
Astronautics	117	Materials & Chemistry	15
Engineering	382	Physics	17
Geosciences	7	Space Sciences	23
Life Sciences	8	Other	90

Who supplies the largest proportion of funds for your current research/project(s)?			
Federal Government	713	Not-for-Profit Institution	8
Private Industry	166	Other	35
Educational Institution	33		

How many years of professional work experience in aerospace do you have?	
0 to 10 years	262
11 to 20 years	184
21 to 30 years	285
31 to 60 years	222

Is any of your current work funded by the Federal Government?	
Yes	774
No	144

Survey 2 Supplementary Questions

975 Eligible Respondents

436 Did Not Respond

SURVEY 2

Please rate each of the information sources (Conference/Meeting Papers, Journal Articles, In-House Technical Reports, NASA Technical Reports and DoD Technical Reports on their accessibility, ease of use and expense.

Accessibility	**Very Accessible 1**	**2**	**3**	**4**	**Not At All Accessible 5**
Conference/Meeting Papers	63	169	150	103	2
Journal Articles	218	193	65	11	2
In-House Technical Reports	106	104	64	87	21
NASA Technical Reports	88	173	115	59	12
DoD Technical Reports	28	87	116	109	35
Ease of Use	**Very Easy To Use 1**	**2**	**3**	**4**	**Not At All Easy to Use 5**
Conference/Meeting Papers	72	229	142	39	4
Journal Articles	103	220	129	32	4
In-House Technical Reports	65	155	117	32	5
NASA Technical Reports	91	217	114	17	2
DoD Technical Reports	31	129	149	36	7
Expense	**Reasonably Priced 1**	**2**	**3**	**4**	**Too Expensive 5**
Conference/Meeting Papers	79	106	148	104	30
Journal Articles	121	149	135	58	10
In-House Technical Reports	195	77	60	21	4
NASA Technical Reports	137	151	103	19	4
DoD Technical Reports	80	120	97	25	6

Accessibility, that is, the ease of getting to the information source.
Ease of Use, that is, the ease of comprehending or utilizing the information.
Expense, that is, low cost in comparison to other sources.

SURVEY 2

Please rate each of the information sources (Conference/Meeting Papers, Journal Articles, In-House Technical Reports, NASA Technical Reports and DoD Technical Reports on their technical quality or reliability, comprehensiveness and relevance.

Technical Quality or Reliability	**Excellent 1**	**2**	**3**	**4**	**Poor 5**
Conference/Meeting Papers	31	169	229	52	2
Journal Articles	124	265	90	6	0
In-House Technical Reports	43	161	132	32	3
NASA Technical Reports	95	218	114	10	1
DoD Technical Reports	17	146	154	26	3
Comprehensiveness	**Comprehensive 1**	**2**	**3**	**4**	**Not Comprehensive 5**
Conference/Meeting Papers	27	129	213	100	15
Journal Articles	70	225	146	43	4
In-House Technical Reports	31	141	137	59	6
NASA Technical Reports	68	202	137	29	2
DoD Technical Reports	19	128	159	37	3
Relevance	**Very Relevant 1**	**2**	**3**	**4**	**Not At All Relevant 5**
Conference/Meeting Papers	57	178	185	66	0
Journal Articles	70	218	152	45	3
In-House Technical Reports	78	164	111	20	0
NASA Technical Reports	77	208	125	27	1
DoD Technical Reports	45	133	146	21	2

Technical Quality or Reliabilty, that is, the information sources were expected to be the best in terms of quality, accuracy and reliability.

Comprehensiveness, that is, the expectation that the information source would provide broad coverage of the available knowledge.

Relevance, that is, the expectation that a high percentage of the information retrieved from the source would be used.

Survey 3

955 Respondents

SURVEY 3

Do you use:	No	Yes Frequently	Yes Sometimes	Yes Seldom	Not Answered
STAR	714	36	112	63	20
NASA SP-7037	867	8	33	20	15
CAB	919	3	6	8	10
GRA&I	898	6	14	15	12
RECON	816	22	47	42	16
DROLS	895	4	18	9	18
NTIS File	766	29	82	52	16
Federally-Funded Aerospace R&D	338	280	238	78	13
Foreign Language Technical Reports	695	10	69	120	8

Are you familiar with:	Yes	No
STAR	182	521
NASA SP-7037	85	779
CAB	34	867
GRA&I	30	855
RECON	50	760
DROLS	17	874
NTIS File	106	655

In terms of performing your present professional duties, how important are:	Very Important	Somewhat Important	Of Little Importance
STAR	32	121	64
NASA SP-7037	8	37	15
CAB	3	9	5
GRA&I	3	18	12
Federally-Funded Aerospace R&D	363	208	30
Foreign Language Technical Reports	19	106	70

SURVEY 3

Why don't you use: (Answered only by non-users familiar with bibliographic tools).

	Circled	Not Circled
STAR		
Not easily available/accessible	75	133
Not relevant for what I do	55	153
Don't use technical reports	12	196
Can get the same information more easily from another source	36	172
Rely on others to search for relevant/needed information	79	129
Difficult to obtain what's in there	11	197
NASA SP-7037		
Not easily available/accessible	32	70
Not relevant for what I do	22	80
Don't use technical reports	4	98
Can get the same information more easily from another source	16	86
Rely on others to search for relevant/needed information	38	64
Difficult to obtain what's in there	4	98
CAB		
Not easily available/accessible	15	46
Not relevant for what I do	10	51
Don't use technical reports	3	58
Can get the same information more easily from another source	8	53
Rely on others to search for relevant/needed information	15	46
Difficult to obtain what's in there	2	59
GRA&I		
Not easily available/accessible	13	42
Not relevant for what I do	9	46
Don't use technical reports	5	50
Can get the same information more easily from another source	7	48
Rely on others to search for relevant/needed information	12	43
Difficult to obtain what's in there	2	53

SURVEY 3

Why don't you use: (Answered only by non-users familiar with bibliogrpahic tools).		
RECON	**Circled**	**Not Circled**
Not easily available/accessible	21	49
Not relevant for what I do	16	54
Skill in using computer hardware/software	4	66
Skill in using a database	6	64
Not timely/current	0	70
Can get the same information more easily from another source	15	55
Difficult to obtain what's in there	1	69
The system is not "user friendly"	0	70
DROLS		
Not easily available/accessible	8	29
Not relevant for what I do	4	33
Skill in using computer hardware/software	2	35
Skill in using a database	1	36
Not timely/current	1	36
Can get the same information more easily from another source	4	33
Difficult to obtain what's in there	1	36
The system is not "user friendly"	1	36
NTIS File		
Not easily available/accessible	38	85
Not relevant for what I do	47	76
Skill in using computer hardware/software	3	120
Skill in using a database	6	117
Not timely/current	4	119
Can get the same information more easily from another source	26	97
Difficult to obtain what's in there	4	119
The system is not "user friendly"	0	123

Why don't you use: (Answered only by non-users familiar with bibliographic tools.)		
Federally-Funded Aerospace R&D	**Circled**	**Not Circled**
Not easily available/accessible	106	237
Not relevant for what I do	180	168
Not timely/current	14	334
Difficult to obtain	39	309
Foreign Langunge Technical Reports		
Not easily available/accessible	261	442
Not relevant for what I do	221	484
Don't read the language	390	315
Don't use technical reports	40	665
Physical access, time required to obtain a translation	180	525
Red tape involved in obtaining a foreign language technical report	59	646
Not reliable/language translation inaccurate	39	666
Intellectual quality of the research	15	690

SURVEY 3

To what extent has each of the following factors influenced your use of GRA&I, RECON, DROLS and NTIS File?					
GRA&I	**Greatly Influenced 1**	**2**	**3**	**4**	**Not Influenced 5**
Accessibility	7	10	11	3	2
Ease of Use	3	12	14	3	1
Expense	3	9	9	4	7
Familiarity or Experience	4	10	14	3	2
Technical Quality or Reliability	7	14	7	1	2
Comprehensiveness	5	15	11	0	1
Relevance	7	11	10	3	1
RECON					
Accessibility	44	36	13	6	4
Ease of Use	18	42	21	10	9
Expense	13	22	17	13	34
Familiarity or Experience	20	30	30	7	14
Technical Quality or Reliability	23	35	28	9	7
Comprehensiveness	26	45	21	5	7
Relevance	22	44	26	5	6
DROLS					
Accessibility	9	13	3	3	2
Ease of Use	4	14	6	3	2
Expense	4	6	7	5	6
Familiarity or Experience	4	8	12	1	4
Technical Quality or Reliability	8	7	9	3	2
Comprehensiveness	6	10	10	2	1
Relevance	8	8	7	5	1
NTIS File					
Accessibility	55	42	40	6	10
Ease of Use	25	56	43	15	16
Expense	13	28	36	22	45
Familiarity or Experience	26	47	43	13	19
Technical Quality or Reliability	24	60	51	5	10
Comprehensiveness	27	61	41	11	9
Relevance	24	59	44	12	9

SURVEY 3

What problems do you most encounter when seeking the results of federally-funded aerospace R&D?	Circled	Not Circled
Time required to find information	307	299
Physical access: time required to obtain the information	333	273
Physical quality of published information	77	529
Intellectual quality of published information	62	544
Limitations/restrictions/access to the information	192	414
None	82	524

To what extent has each of the following factors influenced your use of STAR, NASA SP-7037 and CAB?

STAR	Greatly Influenced 1	2	3	4	Not Influenced 5
Accessibility	60	83	48	14	8
Ease of Use	37	97	54	15	9
Expense	29	40	52	24	64
Familiarity or Experience	42	80	62	15	12
Technical Quality or Reliability	30	92	65	11	13
Comprehensiveness	29	82	69	16	14
Relevance	29	91	61	20	10
NASA SP-7037					
Accessibility	16	22	15	6	1
Ease of Use	14	20	17	4	3
Expense	11	9	19	7	11
Familiarity or Experience	7	16	26	6	3
Technical Quality or Reliability	11	22	21	1	4
Comprehensiveness	12	16	27	2	2
Relevance	9	14	31	3	2
CAB					
Accessibility	1	8	4	3	1
Ease of Use	2	4	9	1	1
Expense	0	5	5	3	4
Familiarity or Experience	1	7	5	3	1
Technical Quality or Reliability	4	6	6	1	1
Comprehensiveness	2	8	4	1	2
Relevance	4	5	6	1	1

SURVEY 3

In the past six months, what percentage of your use of STAR, NASA SP-7037, CAB, GRA&I, RECON, DROLS AND NTIS File were used for educational, purposes, research and for management?					
Education	**0%**	**1-25%**	**26-50%**	**51-75%**	**76-100%**
STAR	10	50	38	16	17
NASA SP-7037	1	13	12	2	6
CAB	1	4	2	0	0
GRA&I	2	2	6	0	2
RECON	7	14	14	1	4
DROLS	0	6	1	0	1
NTIS File	12	26	16	1	10
Research					
STAR	4	19	43	21	109
NASA SP-7037	1	9	15	5	20
CAB	0	3	4	3	7
GRA&I	0	2	7	2	17
RECON	1	7	12	9	67
DROLS	0	2	5	2	19
NTIS File	1	11	18	8	96
Management					
STAR	13	34	12	3	4
NASA SP-7037	2	8	7	3	2
CAB	12	6	0	0	0
GRA&I	1	3	4	1	2
RECON	9	11	9	0	3
DROLS	0	5	7	0	0
NTIS File	10	16	14	3	5
Other					
STAR	17	14	1	2	2
NASA SP-7037	2	5	1	1	1
CAB	1	1	2	0	0
GRA&I	2	0	1	1	0
RECON	9	6	1	1	0
DROLS	0	2	1	0	0
NTIS File	13	6	3	0	4

If you use RECON, DROLS or NTIS File do you:	RECON	DROLS	NTIS File
Do all searches yourself	1	6	14
Do most searches yourself	6	0	11
Do half by yourself and half through an intermediary	15	1	12
Do most searches through an intermediary	37	9	40
Do all searches through an intermediary	53	18	89

SURVEY 3

Which is the highest level of education that you have completed?			
No degree	7	JD	1
Technical or Vocational Degree	4	Doctorate	278
Bachelor's Degree	242	Post Doctorate	35
Master's Degree	336	Other	13
MBA	36		

Compare your educational preparation and present duties:			
Educational Preparation		**Present Professional Duties**	
An Engineer	808	An Engineer	624
A Scientist	113	A Scientist	81
Other	29	Other	214

Which best describes the type of organization where you work?			
Academic	130	Industrial	505
Government (DoD)	97	Not-for-Profit	40
Government (NASA)	99	Retired or Not Employed	7
Government (other)	12	Other	59

What is your primary professional duty?			
Academic/Teaching	104	Tech Administrative/Management	
Research	138	(gov't, not-for-profit)	97
Administrative/Management		Design/Development RDT&E	279
(profit sector)	31	Manufacturing/Production	9
Tech Administrative/Management		Marketing/Sales	17
(profit sector)	190	Service/Maintenance	7
Administrative/Management		Private Consultant	27
(not-for-profit)	13	Other	39

What is your primary AIAA interest group?			
Aerospace Sciences	208	Space & Missile Systems	207
Aircraft Systems	134	Structures, Design & Test	120
Information & Logistic Systems	27	Other	114
Propulsion & Energy	139		

SURVEY 3

Which of the following best characterizes your area of work or the application of your work?			
Aeronautics	249	Math & Computer Sciences	46
Astronautics	119	Materials & Chemistry	25
Engineering	377	Physics	20
Geosciences	4	Space Sciences	34
Life Sciences	6	Other	65

Who supplies the largest proportion of funds for your current research/project(s)?			
Federal Government	701	Educational Institution	20
Private Industry	179	Not-for-Profit Institution	6
		Other	29

How many years of professional work experience do you have?	
0 to 10 years	265
11 to 20 years	212
21 to 30 years	274
31 to 40 years	169
41 to 60 years	20

Is any of your current research funded by the Federal Government?	
Yes	796
No	141

Survey 3 Supplementary Questions

955 Eligible Respondents

465 Did Not Respond

SURVEY 3

Please rate each of the following information sources (Conference/Meeting Papers, Journal Articles, In-House Technical Reports, NASA Technical Reports, DoD Technical Reports) on their accessibility, ease of use and expense.

Accessibility	**Very Accessible 1**	**2**	**3**	**4**	**Not At All Accessible 5**
Conference/Meeting Papers	62	158	132	74	9
Journal Articles	204	143	59	19	3
In-House Technical Reports	106	90	52	77	23
NASA Technical Reports	81	127	116	58	10
DoD Technical Reports	27	67	95	92	24
Ease of Use	**Very Easy To Use 1**	**2**	**3**	**4**	**Not At All Easy To Use 5**
Conference/Meeting Papers	60	197	131	39	3
Journal Articles	87	215	99	24	2
In-House Technical Reports	69	150	91	28	3
NASA Technical Reports	78	185	104	20	0
DoD Technical Reports	19	115	125	35	5
Expense	**Reasonably Priced 1**	**2**	**3**	**4**	**Too Expensive 5**
Conference/Meeting Papers	82	102	114	77	35
Journal Articles	101	125	130	37	16
In-House Technical Reports	182	68	49	11	6
NASA Technical Reports	128	114	87	20	6
DoD Technical Reports	77	80	82	26	7

Accessibility, that is, the ease of getting to the information source.
Ease of Use, that is, the ease of comprehending or utilizing the information.
Expense, that is, low cost in comparison to other sources.

SURVEY 3

Please rate each of the information sources (Conference/Meeting Papers, Journal Articles, In-House Technical Reports, NASA Technical Reports and DoD Technical Reports) on their technical quality or reliability, comprehensiveness and relevance.

Technical Quality or Reliability	**Excellent 1**	**2**	**3**	**4**	**Poor 5**
Conference/Meeting Papers	39	138	189	60	2
Journal Articles	118	220	74	12	0
In-House Technical Reports	28	164	121	19	6
NASA Technical Reports	79	202	89	15	1
DoD Technical Reports	22	107	137	25	2
Comprehensiveness	**Comprehensive 1**	**2**	**3**	**4**	**Not Comprehensive 5**
Conference/Meeting Papers	22	117	177	96	19
Journal Articles	38	203	138	42	4
In-House Technical Reports	32	130	121	48	6
NASA Technical Reports	50	183	124	26	2
DoD Technical Reports	22	93	129	40	8
Relevance	**Very Relevant 1**	**2**	**3**	**4**	**Not At All Relevant 5**
Conference/Meeting Papers	48	175	155	51	2
Journal Articles	63	183	138	37	3
In-House Technical Reports	71	140	107	20	3
NASA Technical Reports	66	165	130	25	0
DoD Technical Reports	36	101	123	30	3

Technical Quality or Reliabilty, that is, the information sources were expected to be the best in terms of quality, accuracy and reliability.
Comprehensiveness, that is, the expectation that the information source would provide broad coverage of the available knowledge.
Relevance, that is, the expectation that a high percentage of the information retrieved from the source would be used.

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16. Abstract

Phase 1 of a four part study was undertaken investigating the use of scientific and technical information (STI) by U.S. aerospace engineers and scientists. Specific attention was paid to institutional and sociometric variables and to the step-by-step process of information gathering used by the respondents. Data were collected by means of three self-administered mail-back questionnaires. The approximately 34,000 members of the American Institute of Aeronautics and Astronautics (AIAA) served as the study population. More than 65 percent of the randomly selected respondents returned the questionnaires in each of the three groups. Respondents relied more heavily upon informal sources of information than formal sources and turned to librarians and other technical information specialists only when they did not obtain results via informal means or their own formal searches. Report includes frequency distributions for the questions.

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