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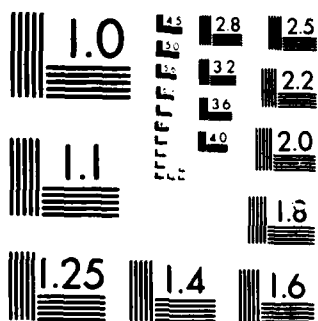
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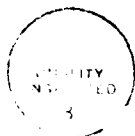
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USER FEEDBACK MECHANISMS
FOR
DEFENSE TECHNICAL INFORMATION CENTER
SERVICES AND PRODUCTS
PHASE II

Information Science Intern Project

Marcia Hanna

May, 1983

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This paper reports the results of the second phase of a two-phase project to develop user feedback mechanisms for selected Defense Technical Information Center (DTIC) products/services. Self-administered questionnaires are proposed for seven products/services. In addition, a method (in grid format) is presented which DTIC personnel can use to analyze conference minutes so as to identify and categorize user concerns. Used over time, these questionnaires and the grid would produce data which could be used to identify agency strengths and weaknesses and to project trends.					
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ABSTRACT

This paper reports the results of the second phase of a two-phase project to develop user feedback mechanisms for selected Defense Technical Information Center (DTIC) products/services. Self-administered questionnaires are proposed for seven products/services. In addition, a method (in grid format) is presented which DTIC personnel can use to analyze conference minutes so as to identify and categorize user concerns. Used over time, these questionnaires and the grid would produce data which could be used to identify agency strengths and weaknesses and to project trends.

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This paper reports the results of the second phase of a two-phase project to develop a set of user feedback mechanisms for selected Defense Technical Information Center (DTIC) products and services. The results of the earlier effort were reported in "User Feedback Mechanisms for Defense Technical Information Center Products and Services, Phase I," dated January, 1983. During this second phase self-administered questionnaires were developed for users of Demand Bibliographies, Current Awareness Bibliographies (CAB) and Recurring Management Information System Reports; for participants in the Automatic Distribution of Documents (ADD) program, for students in online training classes, for conference attendees and for visitors to the DTIC facility. These products and services were selected because they are central to the accomplishment of the DTIC mission and because they are entities which users are capable of evaluating realistically. In addition to these instruments to collect direct feedback, a method, in grid format, is presented which DTIC personnel can use to analyze conference minutes so as to identify and categorize user concerns. Used over time these questionnaires and the grid will produce data which can be used to identify agency strengths and weaknesses and to project trends.

OVERVIEW OF APPROACH

Three preliminary steps were taken during Phase I of this project. First, a literature search was made to identify previous efforts to develop feedback mechanisms for DTIC products and services. Second, similar agencies, e.g. the National Technical Information Service and the National Aeronautics and Space Administration Technical Information Center, were queried to identify feedback mechanisms they use for products and services similar to those produced by DTIC. Third, workers in various DTIC programs were canvassed to identify existing formal and informal efforts.

During Phase II those feedback mechanisms which were located were examined and evaluated for procedures which could be adapted for this project. The writer then met with work groups in the various DTIC programs and explained the goals of this project. Workers were asked to describe the goals their programs were intended to achieve. They were then asked to think of ways in which user feedback could help them achieve those goals. Based on the information gained through the literature search, contributions from similar agencies, existing DTIC

forms and most importantly, input from the program workers, draft questionnaires were developed by the writer.

When a draft questionnaire acceptable to both the writer and the program personnel had evolved for all the programs, the drafts were then pre-tested. Eight professional librarians who serve significant research and development populations cooperated in this pre-test effort. Appendix A lists the participants in the pre-test.

Pre-testing a questionnaire gives the researcher an opportunity to see how well it works and what changes are necessary before the start of a full-scale study. This preliminary step can significantly improve the survey instrument and greatly enhance the quality of the information obtained. During the pre-test the researcher can identify and solve unforeseen problems in the administration of the questionnaire, such as the wording and sequence of questions or inadequate instructions for filling out answers to questions. It may also indicate that certain additional questions are needed or that certain ones should be eliminated.

In general, the pre-test should be in the form of personal interviews, as was done in this case. An important part of the pre-test interview is discussion of the questions with the respondents after they have answered them. The respondent may be queried as to what the questions meant to him or her, what difficulties were experienced in replying, what further ideas he or she had in mind which were not brought out by the question, and how the respondent would have asked the question. There was a consistent effort to follow these guidelines in pre-testing these questionnaires.

The pre-test participant input was evaluated by the writer. Most of the suggested changes were incorporated into the draft questionnaires. The pre-tested forms were then taken back to program workers for further consultations. The vast majority of the changes were readily accepted by the program workers.

OVERVIEW OF DATA ANALYSIS

In analyzing the user input, the researcher will take advantage of the speed, convenience and flexibility offered by the Statistical Package for the

Social Sciences (SPSS), available at DTIC on the Univac 1100/60. SPSS is a packaged computer program specifically designed to compute those statistics typically used by social scientists. Such statistics include single-variable descriptive statistics, for example, median, mean, mode, range, variance, standard deviation, and skewness. SPSS will also provide the capability to do crosstabulations and related measures of association. SPSS output is available in tabular, histogram and scattergram form.

The researcher will provide DTIC management with reports based on the SPSS output. Having such reports should provide DTIC management with practical planning information. They would be advised of the specific characteristics users want in products and services. They would be alerted to areas where problems exist or are developing, such as areas where user training is particularly needed. Similarly, reviewing the results of surveys over a number of years would enable planners to more accurately project long-range trends in user needs.

BRIEFING AND TOUR QUESTIONNAIRE

DTIC welcomes visitors with a monthly briefing and tour of the facility. The vast majority of these visitors are users or potential users of DTIC products and services. A DTIC spokesperson summarizes the history of the agency and provides an overview of its mission and programs. Visitors are then shown a video slide/tape presentation, "Information: A Basic Research and Development Tool," which further clarifies the agency's role in DoD research and development. Following the slide/tape presentation, visitors tour the facility. Emphasis is placed on those work stations which experience has shown to be of the greatest interest to visitors. For example, there is a demonstration of on-line searching. The briefing and tour together typically require one and one-half hours. From 1 May 1982 to 1 May 1983, 130 visitors received the briefing and tour.

The evaluation form (see Figure 1) for this service was designed in consultation with Thomas Lahr, Office of User Services, the present DTIC briefer. In Part I of the questionnaire respondents are asked to identify the type of organization with which they are associated. Part II is designed to

Figure 1

DEFENSE TECHNICAL INFORMATION CENTER	
BRIEFING AND TOUR	
You have just completed a briefing and tour to familiarize you with DTIC. We are interested in your comments so that we may improve the experience for future visitors. We would appreciate your frankness and cooperation in completing this evaluation.	
PART I	VISITOR INFORMATION
1. Organization	☐ DoD ☐ Other US Government ☐ Contractor ☐ Other _____
PART II	COMMENTS ON BRIEFING/TOUR
2. Organization of Briefing/Tour	☐ Excellent ☐ Satisfactory ☐ Needs improvement
3. Duration of Briefing/Tour	☐ Too Short ☐ Appropriate ☐ Too Long
4. Visual appeal of the slide/tape presentation	☐ Excellent ☐ Satisfactory ☐ Needs improvement
5. Information conveyed by the slide/tape presentation	☐ Clearly useful ☐ Useful ☐ Marginally useful
6. Comments	
PART III	COMMENTS ON BRIEFER
7. Briefer's knowledge of DTIC operations and services	☐ Comprehensive ☐ Adequate ☐ Needs Improvement
8. Did the Briefer seem to be open to questions?	☐ Yes ☐ No
9. Did the Briefer answer your questions or offer to research questions for which he/she had no immediate answer?	☐ Yes ☐ No
10. Delivery of Briefing	☐ Excellent ☐ Satisfactory ☐ Needs improvement
11. Attitude of Briefer (check all that apply)	☐ Friendly ☐ Distant ☐ Helpful ☐ Not helpful
12. Atmosphere established	☐ Formal ☐ Informal
13. Comments	
Part IV	SUGGESTIONS FOR IMPROVEMENT OF BRIEFING/TOUR
14. Please give us your suggestions on how we might make the briefing/tour more informative and more pleasant for our visitors.	
DTIC USE ONLY: Date: _____ Number of visitors in tour: _____	

elicit information on whether the program could more effectively be presented in some different sequence and whether visitors believe that a balance was achieved between their need for information about the agency and the amount of time that they were required to expend to meet that need. Questions on the visual appeal and information conveying capacity of the slide tape presentation are designed to alert DTIC to any need to seek a new audio-visual package.

Part III, "Comments on Briefer," is designed to give managers a measure of the success of one of the most critical elements in the agency's public relations program. Of even greater importance, answers to these questions will provide the briefer himself or herself with information as to which aspects of his or her performance are effective and which require greater effort or a re-examination of approach.

The structured questions on this form are designed so as to be readily analyzable and to provide data which will be comparable from one year to the next so that trends can be identified. In contrast, the open-ended "Comments" section (#6) and the "Suggestions" section (#14) provide for more spontaneous responses which, if the respondent so chooses, can be related to specific events in a particular briefing session.

DTIC personnel will supply the number of visitors called for at the end of the form so that size of the visitor group can be related to reports of successful or unsuccessful briefing experiences. The date of the briefing, also supplied by DTIC, will be sufficient to identify the briefer. This form should be distributed to all DTIC visitors.

Most of the participants in the pre-test found this questionnaire to be straightforward. The purposes of the questions seemed clear to them. However, several were unsure whether or not they were expected to supply the number of visitors in the tour. To overcome this problem, the final version of the form should have a heavy line dividing the "DTIC Use Only" section from the previous section.

Another problem became evident on Questions 2 and 9. On the test version of the form these two questions had check-block series labeled "excellent, good, average and needs improvement." Several respondents said that for them "good" and "average" have the same meaning. As a consequence, "satisfactory" was substituted for "good" and "average."

One respondent suggested that Part II should have a comments section. Space limitations, however, make it impractical to implement this suggestion. Another respondent stated that the "Comments on Briefer" section is particularly needed since DTIC presenters at public gatherings frequently make a poor showing.

CONFERENCE EFFECTIVENESS QUESTIONNAIRE

As part of its ongoing user liaison and training effort DTIC annually sponsors seven user conferences. Six regional conferences are dispersed around the country so as to minimize travel time and expense for users. One national conference is held near the agency's main facility. This national conference permits maximum interaction between greater numbers of agency personnel and many of the users of DTIC products and services. It also provides an opportunity for the Administrator and his staff, on the one hand, to summarize the year's problems and accomplishments and to react as a group to questions of pervasive user interest. On the other hand, the user advisory council provides a review and judgment from the user viewpoint and a summation of tasks accomplished versus new or unfinished requirements. The six regional conferences scheduled for 1983 were held between 14 March and 6 May with 317 user-participants present. The most recent national conference, October, 1982, in Alexandria, Virginia, attracted 270 users.³ These conferences give attendees an opportunity to receive training in the use of agency products and services and to benefit from interaction with peers from other information handling agencies. In addition, the conferences give agency personnel an opportunity to obtain both informal and formal feedback from users and are therefore critical to DTIC efforts to improve its products and services.

This questionnaire (see Figure 2) was designed to facilitate gathering of user feedback at conferences. Roberta Cohen, Office of Information Systems and Technology, developed a questionnaire which was distributed at the six 1983 regional conferences.⁴ That questionnaire and the user responses to it were studied and offered a number of useful insights for development of this questionnaire. Paul Klinefelter, Judy Pickeral and Thomas Lahr, Office of User Services, were consulted as part of the development process. They offered a number of suggestions which were also incorporated.⁵

Part I of the questionnaire requests considerable information about the

Figure 2

CONFERENCE EFFECTIVENESS SURVEY	
DTIC is interested in your comments on this conference and in your suggestions for future conferences. We would appreciate your frankness and cooperation in completing this survey.	
USER INFORMATION	
1. Organization:	☐ DoD ☐ Other US government ☐ Contractor ☐ University ☐ IAC ☐ Other _____
2. Your position:	☐ Library Director ☐ Scientist/Engineer ☐ Administrative Asst. ☐ Librarian ☐ R&D Manager ☐ Other (Please Specify) _____ ☐ Library Technician ☐ Systems Analyst _____
3. Do you personally do on-line searching of DTIC data bases? ☐ Yes ☐ No	
4. DTIC services used (check all appropriate)	
☐ On-line dedicated terminal ☐ On-line dial-up terminal ☐ Call in/mail in searches ☐ Document ordering	☐ SBI Network ☐ CAB Program ☐ ADD Program ☐ Recurring MIS Reports
5. Is this your first DTIC user conference? ☐ Yes ☐ No	
6. Professional information meetings you have attended or expect to attend this year. (check all that apply)	
☐ DTIC Regional Conference(s) ☐ DTIC Annual Conference ☐ ASIS ☐ SLA	☐ Online YR? (Sponsored by <u>Online Review</u>) ☐ Federal DP EXPO ☐ Other _____
7. Approximately how far did your travel to come to this conference?	
☐ Under 50 miles ☐ 50 - 100 miles ☐ 100 plus miles	
PART II CONFERENCE EVALUATION	
8. What is your overall evaluation of this conference on the following scale? (check one)	
very useful ☐ 7 useful ☐ 6 useful ☐ 5 little use ☐ 3 of no use ☐ 1	
9. Which session or aspect of the conference did you find MOST useful? (Use other side if needed)	
10. Which session or aspect of the conference did you find LEAST useful? (Use other side if needed)	
PART III FUTURE CONFERENCES	
11. DTIC wants you to help plan the agenda for future conferences. What problem areas should be addressed? (Use other side if needed).	
12. EVALUATOR NAME AND ORGANIZATION (OPTIONAL)	DTIC USE ONLY Conference ID

users themselves. This information is important to have so that training sessions can be tailored to the actual needs of the persons who attend DTIC conferences. Questions 1 through 5 are directed particularly toward that need. Questions 6 and 7 are intended to measure limits on users' opportunities to gain first-hand information about advances in information handling and to interact with peers.

Part II, Question 8, is intended to be a gross measure only. However, it should be informative when results are summarized and compared over several years. The remaining three questions are open-ended and are intended to gather information for planning the specifics of subsequent conferences. Questions 9 and 10 focus on the perceived strengths and weaknesses of the conference the respondent is attending. Question 11 seeks to identify the concerns that users consider serious, which they believe will be of a persistent character and which they believe can be profitably addressed at DTIC conferences.

Question 2 of the first version of this questionnaire listed only "Librarian" and "Library Technician" as position titles for persons working in libraries. In response to pre-test participant suggestions, a third category, "Library Director," was added. Several of the pre-test participants said that in their minds the term "librarian" applies only to persons offering direct service to users and that some other designation is required to identify a library administrator.

One respondent objected to Question 8, maintaining that it is too general to provide any useful information. This same respondent predicted that Questions 9 and 10 would provide the specific information DTIC needs.

Another respondent was enthusiastic about Question 11, saying that it is highly advisable to seek this sort of planning information at the end of a conference when the events and experiences of the conference are still fresh in the minds of the attendees. Still another said that by its "vagueness" this question suggests that DTIC is unwilling to do the work of planning its own conferences. This participant held that it would be more effective to provide a list of possible agenda topics and ask the respondents to prioritize those topics. This suggestion may have considerable merit. However, it was not incorporated into the questionnaire, because a list of specifics would tend to date a form which, it is hoped, can be used over several years.

Still another respondent felt that there should be a "general comments" section. This suggestion was not incorporated into the form because of space

limitations and because it is believed that Questions 9, 10 and 11 provide sufficient opportunity for open-ended response.

These questionnaires should be given to attendees when they register both for regional and national conferences. Potential respondents should be requested to return the questionnaires at the end of the conference. Those who fail to return the questionnaire could differ significantly from those who do return it. These persons whose response is missed may, thereby, introduce an element of non-response bias into the results. However, previous conference attendees have shown themselves to be, as a group, interested in cooperating with efforts to obtain their input. For that reason, it is expected that the non-response bias will not be sufficient to invalidate the data.

ON-LINE TRAINING PROGRAM QUESTIONNAIRE

DTIC offers an on-going program to train representatives of proposed or operational sites in the use of remote terminals linked to the Defense RDT&E On-Line System (DROLS). At the end of FY 1982 the on-line remote terminal system included 541 user organizations.⁶

Basic and refresher courses for beginning and intermediate level students stress the principles operators must master for successful retrieval of information from DROLS. Workshops give more advanced students an opportunity to further refine their retrieval skills. Another series of classes teaches data input technique to representatives of Information Analysis Centers, representatives of sites participating in the Shared Bibliographic Input Network and to personnel from sites which input their project data directly into the Work Unit Information System.

During FY 1982, 141 students were trained in retrieval at the DTIC site. Other retrieval training sessions, attended by 83 students, were presented at nine locations around the United States. Training for input is centralized at DTIC where 35 students were trained in FY 1982.⁷

This form (see Figure 3) was designed in consultation with James DePersis, Marie Clark, and Jane Hatton, Directorate of Data Base Services.⁸ These DTIC trainers were divided as to the usefulness of any training evaluation questionnaire. One felt that students would not provide objective critiques of

Figure 3

DEFENSE RDT&E ON-LINE TRAINING EVALUATION

You have just completed a training program to learn to operate the Defense RDT&E On-line system. DTIC is interested in your comments concerning the course content, format and presentation so that future instruction can meet your needs. We would appreciate your frankness and cooperation in completing this evaluation.

Part I

PRELIMINARY

A. TRAINING RECEIVED

- | | |
|---|---|
| 1. Type of training | 2. Level of training |
| ☐ Retrieval ☐ Dedicated ☐ Dial-up
☐ Input ☐ SBI | ☐ Basic ☐ Refresher
☐ Workshop |
| 3. Data Base(s) | 4. Length of course |
| ☐ TR file (1473) ☐ PP file (1643)
☐ WU file (1498) ☐ IR&D (271) | ☐ 2 days ☐ 5 days
☐ 3 days ☐ 10 days |

B. YOUR CURRENT POSITION

1. Organization
☐ DoD ☐ Other US Government ☐ Contractor ☐ IAC ☐ Other _____
2. Your position
☐ Librarian ☐ Scientist/Engineer ☐ Clerk/Steno
☐ Library Technician ☐ Programmer ☐ Other (Specify) _____
☐ Tech. Info. Specialist ☐ Administrative Asst. _____

C. OTHER ON-LINE SYSTEMS

1. Available at your site (check all that apply)
☐ DoE/RECON ☐ NASA/RECON ☐ DIALOG ☐ ORBIT ☐ BRS ☐ Other _____
2. Which ones can you operate? (check all that apply)
☐ DoE/RECON ☐ NASA/RECON ☐ DIALOG ☐ ORBIT ☐ BRS ☐ Other _____
3. How did this knowledge affect your learning the DTIC system?
☐ Helped ☐ Hindered ☐ Neither

PART II

COMMENTS ON MATERIALS, FACILITY AND EQUIPMENT

A. Training materials	Excellent	Good	Average	Needs Improvement
1. Operator's manuals				
2. Reference tools				
3. Visual aids				
4. Training room				

Comments

B. Ease of equipment operation	Excellent	Good	Average	Needs Improvement
1. Terminals				
2. Printer				
3. Sound Page Recorder				
4. Tape Casette				

Comments

C. Software functions and commands ☐ Easy ☐ Difficult ☐ Need improvement

Comments

Figure 3-Continued

PART III COMMENTS ON LEARNING EXPERIENCE				
A. Data Base Coverage	Excellent	Good	Average	Needs Improvement
1. TR File (1473)				
2. WUIS (1498)				
3. PP File (1643)				
4. IR&D (271)				
B. Subject content of the course				
1. Theory	___ Too Much		___ Balanced	___ Too Little
2. Practical	___ Too Much		___ Balanced	___ Too Little
C. Hands-on Practice	___ Helpful		___ Not Needed	
Comments				
D. Security Coverage	___ Excellent	___ Adequate	___ Needs Improvement	
Comments				
E. Length of Course				
1. ___ Leave as is	___ Longer (number of days? ___)	___ Shorter (number of days? ___)		
2. Suggested additional subjects				
3. What would you omit:				
H. Additional training you believe you will need				
1. ___ Yes	2. ___ Refresher	3. ___ in 3 months		
___ No	___ Workshop	___ in 6 - 12 months		
PART IV EVALUATION OF INSTRUCTOR				
Instructor's Name		Date		
1. Organization of subject matter	___ Excellent	___ Good	___ Needs improvement	
2. Delivery of subject matter	___ Excellent	___ Good	___ Needs improvement	
3. Attitude of instructor (check all that apply)				
	___ Friendly	___ Distant	___ Helpful	___ Not helpful
4. Atmosphere established	___ Formal	___ Informal		
Comments				
PART V OVERALL EVALUATION OF COURSE				
1. ___ Excellent	___ Very Good	___ Average	___ Needs improvement	
2. Would you recommend this course to others? ___ Yes ___ No				
Comments				

the course, because the questionnaires would be administered by the trainer whose course they were being asked to evaluate. On the other hand, another instructor maintained that previous training evaluation questionnaires had provided useful information and that this questionnaire could, in fact, contribute to an improved training program. Since the objection to the questionnaire was focused on the manner of its administration rather than on the concept of formal student feedback per se, it is reasonable to develop and implement the questionnaire. If administration of the questionnaire by the instructor does, in fact, produce little or no negative feedback, then other DTIC personnel could administer the questionnaire. Both of these approaches are used in administering student evaluations of university courses. Experience would indicate which approach would be most efficacious for DTIC.

This questionnaire is suitable for use with both retrieval and input students. It should be distributed at the final session of a training series. Part I, Section A, requests information required to relate course evaluations to the particular type of training received. Persons attending these classes vary widely in training and experience and in their current roles in their organizations. Section B seeks information so that training evaluations can be related to these factors. Similarly, Section C aims to relate previous exposure to other on-line systems to readiness to learn the DTIC system.

Part II seeks specific assessments of the merits of the training materials and equipment and of the physical facility. Part III also seeks direct comment on specific aspects of the intellectual and structural components of the course. Part IV offers students an opportunity to provide their input on a critical component, the performance of the instructor. Part V seeks two summary measures of the success or failure of the training session. While gross measures, the information these summary questions elicit should be useful in analyzing trends over time.

Part I, Sections A and B, of the questionnaire remained unchanged after the pre-test. In the first version of Part I, C, 1 ("Other On-line Systems") the respondent was asked to use a check-block series to indicate the on-line systems available at his or her site. The respondent was then asked "which ones can you operate?" At the suggestion of several pre-test participants the same check-block series was added for the second question. Question 3 of this same

section first asked if knowledge of other systems "helped or hindered" learning the DTIC system. Several participants maintained that the DTIC system is so unlike the commercial systems that the category "neither" should be added and it was added.

Part II, B, was first labeled "Operation of equipment." Some participants were confused as to whether this question asked if the equipment was easy to operate or if it would operate at all. As a consequence, the section label was changed to "Ease of equipment operation."

Section C of Part II asks the respondent to evaluate the DROLS "software functions and commands" as to whether they are "easy, difficult, or need improvement." Most participants marked "difficult" or "need improvement" without further comment. However, one participant observed that here DTIC was asking a question to which it already knew the answer, that is, that DTIC knows that its system is "horrendous compared to other systems."

Part III, Section H, was first labeled "Additional training needed." Several participants remarked that this was the wrong time to ask this question. They agreed, however, that if the label was changed to "Additional training you believe you will need," it would then be an acceptable question. The suggested change was made.

This questionnaire seeks much information in a highly structured format. This approach should provide the trainers with balanced coverage of the varied components of their program. It will also provide data in a readily analyzable form. At the same time, by means of several "comments" blocks, the student is provided with a number of opportunities for individualized responses. These responses may be difficult for DTIC personnel to categorize but should provide valuable insights to trainers.

DTIC REPORT BIBLIOGRAPHY/MANAGEMENT SUMMARY INFORMATION SYSTEM QUESTIONNAIRE

Upon request by a registered user for information on a particular subject, DTIC information retrieval analysts will conduct a tailor-made computerized search of the DTIC data bases. These data bases include the Research and Technology Work Unit Information System (WUIS) Data Base, the Technical Report Bibliographic Data Base, and the Independent Research and Development (IR&D) Data

Base. The output of the analyst's search is a paper document called a "Report (Demand) Bibliography," which lists relevant reports with control numbers, informative abstracts, and data describing the research projects. The bibliographies are free of charge to the recipients.

User requests are submitted by mail via a DTIC form which seeks the subject and scope information which retrieval analysts need to construct an appropriate search strategy. Problems will arise however if the requestor has a too vague or too narrow conceptualization of his or her topic or of how that topic relates to the contents of the DTIC data bases. Even when the requestor has an appropriate topic conceptualization, that subject statement may not be conveyed adequately to the analyst for a variety of reasons. Communication problems are sometimes exacerbated because information handling specialists often prepare the DTIC request for the end-user. While these specialists probably clarify many requests, the presence of an intermediary can further distort the communication between the requester and the DTIC analyst.

This questionnaire (see Figure 4) was developed in consultation with Fuller Murfree, the retrieval analysts of the Directorate of Data Base Services, and Carol Finney, Office of User Services, Los Angeles.⁹ Some of the retrieval analysts were enthusiastic about the questionnaire, seeing the information it might produce as an aid in further refining their skills. Some others were negative for several reasons. Some insisted that users would simply refuse to complete the questionnaires. Others seemed to believe that having the user input would have no practical effect on agency practices or procedures. Another objection appeared to center around a suspicion that the questionnaire was a management device to place blame on individual analysts for user dissatisfaction regardless of what factors may have contributed to an unsuccessful search product. The first objection can be addressed by proper form design and aggressive follow-up. The last two objections can not be addressed by survey methodology.

Part I, "Description," is included primarily to provide retrieval analysts with problem solving information to use when evaluations are unfavorable. The first question is a gross measure of familiarity with DTIC procedures and capacities. The second asks for further clarification of the purpose the requester hoped to serve. Question 3 seeks clarification of the subject without the intervention of an intermediary. Question 3 will be a relatively difficult one and may not produce a response.

Figure 4

DTIC REPORT BIBLIOGRAPHY/MANAGEMENT INFORMATION SYSTEM SUMMARY EVALUATION	
INSTRUCTIONS TO THE USER: The objective of this survey is to obtain information for improvement of DTIC Retrieval Services. The evaluation should be completed by the PRINCIPAL USER of the information. Please tell us what you like, as well as what you do not like, about the bibliography. We need both types of information. Return to DTIC within five working days.	
PART I	DESCRIPTION
1. Was this your first request for a DTIC bibliography? ☐ Yes ☐ No	
2. What did you expect to gain from this search? (check one) ☐ Background information ☐ Specific information ☐ Current state-of-the-art ☐ Other (please specify) _____ _____ _____	
3. SEARCH STATEMENT: Please provide a summary statement of the subject as YOU conceptualized it.	
PART II	QUALITY
4. Did you receive the search in time to meet your needs? ☐ Yes ☐ No	
5. If the results were negative, was knowledge of this beneficial? ☐ Yes ☐ No	
6. The number of citations was: ☐ Too small ☐ Satisfactory ☐ Too large	
7. Did you find the search to be: ☐ Comprehensive enough ☐ Specific enough ☐ Neither comprehensive nor specific	
8. Please estimate the number of citations which were NOT RELEVANT to your needs. ☐ 5-10% ☐ 11-20% ☐ 21-30% ☐ 31-50% ☐ 51% or more.	
9. What is your overall evaluation of this search on the following scale? (check one) VERY USEFUL ☐ 7 ☐ 6 USEFUL ☐ 5 ☐ 4 OF LITTLE USE ☐ 3 ☐ 2 OF NO USE ☐ 1	
10. COMMENTS: 	
PART III	APPLICATION
11. Was the search product beneficial to your research or development effort? ☐ Yes ☐ No	
12. If the answer is "yes," was the search beneficial in the saving of time? Please estimate amount _____. (e.g., Work-hours saved in information search time, work-hours saved in avoidance of work duplication, etc.)	
13. If the answer is "yes," was the search beneficial in the savings of money? Please estimate amount _____. (e.g., Dollar value of savings in information search time, dollar value of work not duplicated, etc.)	
14. PRINCIPAL USER/EVALUATOR NAME AND TITLE 	15. Date of Evaluation 16. Telephone Numbers Autovon _____ Commercial _____
DTIC USE ONLY: Date survey distributed: _____ Control _____ Code _____	

Part II, Question 4, seeks to measure the requester's degree of satisfaction with the product in terms of its timeliness. In many situations knowledge that no work has been done in an area is as important to the researcher as documentation of past work. Question 5 probes for this situation. Question 6 may produce an unfavorable response for reasons that may have nothing to do with the quality of the search or with the quality of the data base. Nevertheless, the number of citations to be assessed is a consideration to researchers and is a frequently expressed source of dissatisfaction to users of information products in general. Questions 7 and 8 seek information on whether the user believes he or she has received an acceptable balance between comprehensive coverage and specificity, that is, between recall and relevance. Question 9 is again a gross measure but one that should prove useful in measuring trends over time.

Part III, "Application," Questions 12 and 13, ask the respondent to place an economic value on the information product. Answers to questions such as this are highly speculative at best. Many users will see such questions as both difficult and futile and will not answer. The relatively small number of evaluators who do respond however will provide management with one of its few measures of program impact. While such figures are estimates only, they can be useful in program advocacy if they are used judiciously.

Several items were dropped from Part I as the result of the pre-test. The original version of the form had a question asking if the user had provided a narrative statement of his or her needs and another asking if he or she had provided keywords only. The questions were added at the request of analysts who wanted to emphasize to users the importance of an informative narrative statement of user needs. These questions were included even though the designer was aware of the precept that survey instruments should only attempt to elicit information and should not include teaching devices disguised as questions. The questions were dropped when pre-test participants quickly observed that the information was already available to DTIC on the request form.

Question 8 was added at the suggestion of the pre-test participants. They maintained that users tend to note the proportion of citations which are not appropriate. Most participants thought that few persons will attempt to complete the "Application" section and that those who do will be giving highly speculative answers. While this assessment is probably correct, the questions were retained

for the reasons stated previously. The first version of the form, in the "DTIC Use Only" section, had a block labeled "User Code." This was abbreviated to "Code" when one librarian/participant said that for control purposes she would prefer that end-users not be made aware of the organizational user code.

CURRENT AWARENESS BIBLIOGRAPHY (CAB) QUESTIONNAIRE

The Current Awareness Bibliography (CAB) Program provides a customized automated bibliographic service based on the recurring subject needs of a DTIC user. The user, assisted by CAB personnel, selects the descriptors and nonsubject terms such as COSATI fields/groups, corporate source, personal author and report series numbers which, taken together, comprise the "user profile" or strategy used to search the data base. Every two weeks, the user's subject interest profile is matched against information on newly acquired documents. The search output is an individualized bibliography in paper form which is free of charge to the requestor. The number of user search profiles varies over the year but averages around 2,000. These 2,000 profiles are for persons associated with 310 of DTIC's approximately 3,000 registered user organizations.¹⁰

This questionnaire (see Figure 5) was designed in consultation with Louis Williams, Suzanne Lynch, and Jane Hatton, Directorate of Data Base Services.¹¹ These CAB personnel welcomed the prospect of obtaining user feedback on their service. . They carefully explained the operation of their program so that the questionnaire could be most effectively focused on the realities of how the program operates. Serious reservations were expressed, however, about prospects for achieving a satisfactory return rate from survey subjects.

Part I of the questionnaire seeks to determine whether users are keeping DTIC informed of their changing needs. The first two questions address the adequacy of the existing search profile. Responses to Question 2 can be categorized to identify tendencies to misconstrue profiles according to certain patterns, for example, to construct profiles which are too broad. Number 3 seeks to determine whether users are failing to notify DTIC when they are no longer satisfied with the product.

When no documents related to an interest profile are input to the DTIC system during the two-week cycle the person for whom the profile was constructed

Figure 5

CURRENT AWARENESS BIBLIOGRAPHY (CAB) EVALUATION	
INSTRUCTIONS TO THE USER: The objective of this survey is to obtain information for improvement of the service. The evaluation should be completed by the PRINCIPAL USER and returned to DTIC within five working days.	
PART I USER SEARCH STRATEGY (SUBJECT PROFILE)	
1. Does the search strategy used to produce your CABs adequately represent your current areas of interest? ☐ Yes ☐ No	
2. If you answered "no" above, please explain why the search strategy is not appropriate and how you think it could be improved.	
3. Have you ever requested that your search strategy be revised? ☐ Yes ☐ No	
4. If no citations are found, is notification of this fact beneficial to you? ☐ Yes ☐ No	
5. Is the format of CAB satisfactory? ☐ Yes ☐ No	
6. If the format is unsatisfactory, how would you like to have it changed?	
Part II APPLICATION	
7. How will you use this CAB? (Check all that apply) A. ☐ Keep aware of current DoD research? B. ☐ Find citations to use in ordering documents? C. ☐ Other? Please specify _____	
8. Does any other engineer, scientist, or research person regularly use your CABs? ☐ Yes ☐ No If "yes", how many others? _____	
9. Was this CAB beneficial to your research/development effort? ☐ Yes ☐ No	
10. If the answer is "yes," was the CAB beneficial in savings of time? Please estimate amount: _____ (e.g., work-hours saved in information search time, work-hours saved in avoidance of work duplication.)	
11. If the answer is "yes," was the CAB beneficial in savings of money? Please estimate amount: _____ (e.g., dollar value of savings in information search time, dollar value of work not duplicated, etc.).	
PART III USER INFORMATION	
12. PRINCIPAL USER'S NAME AND TITLE	13. Date of Evaluation _____
	14. Telephone Numbers Autovon _____ Commercial _____
DTIC USE ONLY: Date survey distributed Code Control number	

is notified of that fact. Question 4 seeks to determine whether this notification of negative search results actually is of value to users. Questions 5 and 6 are straightforward requests for format evaluations with requests for ideas for change.

Part II, Questions 7 and 8 try to determine how the CABs are actually being used and if they are serving a greater number of persons than DTIC's official user tally would indicate. Questions 9, 10, and 11 are identical to ones on the Demand Bibliography Evaluation form and are intended to serve those same purposes.

In the first version of the form the writer included the question, "If you wanted to have your search strategy revised, what DTIC office or person would you call?" Pre-test participant responses indicated that recipients do not in fact know who to call and that they think this is a detail they should not be expected to know. The response to the question was sufficiently negative to warrant its being dropped.

Two of the pre-test participants predicted that problems will arise because the form is addressed to the end-user while the librarian, as intermediary, plays an important part in the process. For example, one stated that she routinely removes the search strategy listing (which accompanies the bibliographies) before she passes the CABs on to the end-user.

Questions 9 through 11 produced the same caveats with respect to CAB as they did with respect to Demand Bibliographies. The questions were retained, despite their drawbacks, for the same reasons they were retained on the Demand Bibliography evaluation form.

RECURRING MANAGEMENT INFORMATION SYSTEM REPORTS QUESTIONNAIRE

These reports, focusing on research in progress, are compilations of data from the Work Unit Information System and the Independent Research and Development data bases. They may be requested on an automated recurring basis, to be compiled monthly, quarterly, semiannually, or annually. A search strategy or profile of the user's area of interest is developed through consultation between a DTIC representative and the requester. The output format is a paper document which is free of charge to the recipient. The number of Recurring

Report profiles as of 13 May 1983 stood at 1,247 for persons within 221 organizations.¹²

This evaluation form (see Figure 6) was designed in consultation with Roland Russell, Directorate of Data Base Services.¹³ Like the CAB personnel, Mr. Russell took a very positive approach toward the design of a user feedback mechanism. He also shared their reservations about how successful such a program could be without a well-developed system to deal with non-response.

The Recurring Reports program has many structural and procedural similarities to the CAB program and, as a consequence, much the same questions can be used for both evaluation forms. Questions 1-4 are identical to Questions 1-4 on the CAB form and are intended to serve the same purposes as explained in the previous section. Part II, "Application," is parallel to Part II of the CAB questionnaire. The purposes are the same in both cases. Unlike the CAB questionnaire, however, this form has no questions regarding format because of proprietary restrictions governing who may obtain what information in a Recurring Report.

Pre-test participant response to the Recurring Reports questionnaire was substantially the same as the response to the CAB questionnaire. Two participants suggested that a check-block, "Identify colleagues working in the same research area," be added to Part II, 5. They maintained that this capability is one of the most important aspects of the Recurring Reports service. This addition was made to the questionnaire.

AUTOMATIC DOCUMENT DISTRIBUTION (ADD) PROGRAM QUESTIONNAIRE

This program provides for automatic distribution of microfiche copies of technical reports selected according to the user's area of interest. The service anticipates the user's needs by means of a computerized comparison of the user's subject profile against a data base of newly accessioned technical reports. The user profiles are developed according to the same principles as CAB and Recurring Reports profiles. The microfiche sets, which are shipped every two weeks at a cost of \$.35 per microfiche report, are available to DTIC users having a deposit account with the National Technical Information Service. The ADD program presently consists of 241 profiles for recipients at 198 user organizations. ADD

Figure 6

RECURRING MANAGEMENT INFORMATION SYSTEMS (MIS) REPORTS	
INSTRUCTIONS TO THE USER: The objective of this survey is to obtain information for improvement of the service. This evaluation should be completed by the PRINCIPLE USER of the reports and returned to DTIC within five working days.	
PART I USER SEARCH STRATEGY (SUBJECT PROFILE)	
1. Does the search strategy used to produce your Recurring MIS Reports adequately represent your current areas of interest? ☐ Yes ☐ No	
2. If you answered "no" above, please explain why the search strategy is not appropriate and how you think it could be improved.	
3. Have you ever requested that your search strategy be revised? ☐ Yes ☐ No	
4. If no citations are found, is notification of this fact beneficial to you? ☐ Yes ☐ No	
PART II APPLICATION	
5. How will you use this Recurring MIS Report? (check all that apply)	
A. ☐ Keep aware of current DoD research	
B. ☐ Identify colleagues working in the same research area	
C. ☐ Other. Please specify _____.	
6. Does any other engineer, scientist, or research person regularly use your Recurring MIS Reports? ☐ Yes ☐ No If "yes," how many others? _____.	
7. Was this Recurring MIS Report beneficial to your research/development effort? ☐ Yes ☐ No	
8. If the answer is "yes," was the Recurring MIS Report beneficial in savings of time? Please estimate amount _____. (e.g., Work-hours saved in information search time, work-hours saved in avoidance of work duplication.)	
9. If the answer is "yes," was the Recurring MIS Report beneficial in savings of money? Please estimate amount _____. (e.g., Dollar value of savings in information search time, dollar value of work not duplicated, etc.).	
PART III PRINCIPLE USER IDENTIFICATION	
10. PRINCIPAL USER'S NAME AND TITLE	11. Date of Evaluation
	12. Telephone Numbers Autovon _____ Commercial _____
DTIC USE ONLY: Date survey distributed Control number Code	

program microfiche sets are generally handled and retained in organization information facilities.¹⁴

The evaluation form (see Figure 7) for the ADD program was designed in consultation with Timothy McCleery, Directorate of Document Services, and with the members of the ADD Quality Circle.¹⁵ Because claims for missing shipments are a continuing concern, ADD personnel were particularly interested in receiving input on how their product is processed at the local level. Additionally, they warned that problems may be encountered in administering the questionnaire because certain organizations have multiple search profiles and in some few cases multiple user codes, e.g., military schools with a separate user code for their theses.

Part I, Questions 1, 2 and 3, address the user search strategy in much the same way and for much the same reasons as did the CAB and Recurring Reports questionnaires. Because the ADD product is a document per se rather than a surrogate there is more concern for the specifics of how the product is handled at the local level. Question 5 seeks the recipient's assessment of the effect microfiche have on their ordering of paper copies of the same documents. This is a matter of interest since opinion is divided as to whether the examination of microfiche copies actually stimulates the end-user to seek paper copies or whether microfiche are accepted as substitutes. Questions 6 and 7 seek to determine to what extent automatic distribution of information items actually saves time for professional information handlers. Claims for missing shipments are a continuing concern to DTIC. Question 8 seeks to determine the extent to which users verify shipments at the time of receipt. It is uncertain how satisfactory the present billing system actually is to users and Question 9 is a straightforward attempt to shed light on this question.

Question 3 of the first version of the questionnaire asked if the evaluator had requested a search strategy change within the past one, two, or three years. At the suggestion of pre-test participants, the time periods were changed to six months and one and two years. The first version also asked if the evaluator knew which DTIC offices to call to change a search strategy or to resolve problems with billing. These two questions were removed when the pre-test participants indicated that they did not know and saw no reason why they should know the answers to these questions.

Figure 7

ADD PROGRAM EVALUATION		
INSTRUCTIONS TO THE USER: The objective of this survey is to obtain information to improve the service. The evaluation should be made by the person most knowledgeable about how the ADD program is used in your information facility. Your cooperation and frankness will be appreciated. Please return to DTIC within five working days.		
PART I USER SEARCH STRATEGY (SUBJECT PROFILE)		
1. Does the search strategy (subject profile) used to produce your ADD package adequately represent your current areas of interest? ☐ Yes ☐ No		
2. If you answered "no" to the above, please describe the ways in which the search strategy produces inappropriate results. 		
3. When did you last request that your search strategy be revised? ☐ Within the past 6 months? ☐ Within the past year? ☐ Within the past 2 years?		
PART II USAGE OF ADD DOCUMENTS		
4. Please estimate the percentage of your ADD documents which are a. % routed directly to individual researchers. b. % added to permanent library collection. c. % discarded as unrelated to your area of interest. d. % other .		
5. What effect do the ADD Program fiche have on your ordering of paper copies? (check one) ☐ Encourage ordering of paper copies ☐ Substitute for paper copies ☐ No effect noticed		
6. Does the ADD Program save you time? ☐ Yes ☐ No		
7. If "yes," in which activities does it save time? (check all that apply) ☐ Selection ☐ Ordering ☐ Other (Please specify) .		
PART III PROBLEM AREAS		
8. When an ADD shipment arrives at your library, do you ☐ check the shipment against the packing list. ☐ selectively check the shipment against the packing list. ☐ not check, relying on DTIC accuracy.		
9. Do you have problems with billing for the ADD Program? ☐ Yes ☐ No		
PART IV EVALUATOR IDENTIFICATION		
10. EVALUATOR NAME AND TITLE: 	11. Evaluator Telephone Number(s) <u>Autovon</u> Commercial ()	
DTIC USE ONLY: Date survey distributed Control number Code		

USER CONCERNS ANALYSIS GRID

This format (see Figure 8) is suggested as an aid for DTIC personnel to use in identifying, categorizing and analyzing the concerns that users express at conferences. Conference minutes should be examined for expressions such as "why can't DTIC. . .," "it would help if. . .," "you never have. . .," etc. Once the user concerns are identified, they should be categorized according to the following criteria:

1. Importance. The concern that users seem to feel about the problem. For example, do they seem to believe that the matter is critical and do they seem willing to exert pressure to influence the agency to find a solution?
2. Resources needed. The financial and human resources that would be required to achieve a solution. For example, would the solution require outlay of monies considerably beyond current budget projections.
3. Authority. The level at which the decision can be made to implement a solution to this problem. Is the solution one that can be implemented without authorization from DLA or DoD?
4. Complexity. Is this a problem to which the solution is clear to everyone concerned or is this a problem to which the solution is not apparent and further analysis would be required?
5. Time. Can the problem be solved in a short time? Or is it something that would require a long time owing to personnel, budgetary, organizational or technological constraints?
6. Results. Will the agency and the users know when the problem is solved? Or has the problem been conceptualized in such a way that there will be perpetual cries for "more and better." If the latter is the case, then the problem should be restated so that the results can be measured.

The grid shows the weighting scheme for prioritizing concerns. A format such as this will help make the decision-making process more orderly.

Figure 8

[illegible]

APPENDIX

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APPENDIX

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NOTES

- ¹T. Lahr, DTIC, 6 May 1983.
- ²T. Lahr, DTIC, 7, 21, and 25 April and 6 and 9 May 1983.
- ³J. Pickeral, DTIC, 6 May 1983.
- ⁴R. Cohen, "DTIC REGIONAL USERS CONFERENCES," (unpaginated questionnaire).
- ⁵P. Klinefelter, J. Pickeral, and T. Lahr, 5, 7, 8, 21, and 25 April, 6 and 9 May 1983.
- ⁶"DTIC-TOS Annual Historical Summary--FY82," unpublished typescript, unpaginated.
- ⁷"DTIC-TOS Annual Historical Summary--FY82," unpublished typescript, unpaginated.
- ⁸J. DePersis, M. Clark, and J. Hatton, DTIC, 21 and 26 April and 9 May 1983.
- ⁹F. Murfree, et. al., DTIC, 9, 25, 27, and 29 April, and C. Finney, 22 and 27 April 1983.
- ¹⁰L. Williams, DTIC, 13 May 1983.
- ¹¹L. Williams, S. Lynch, and J. Hatton, DTIC, 20 and 26 April and 10 May 1983.
- ¹²R. Russell, DTIC, 13 May 1983.
- ¹³R. Russell, DTIC, 26 and 27 April and 10 May 1983.
- ¹⁴L. Williams, DTIC, 13 May 1983.
- ¹⁵T. McCleery, DTIC, 12 April, 19 April, 29 April and 10 May 1983.

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