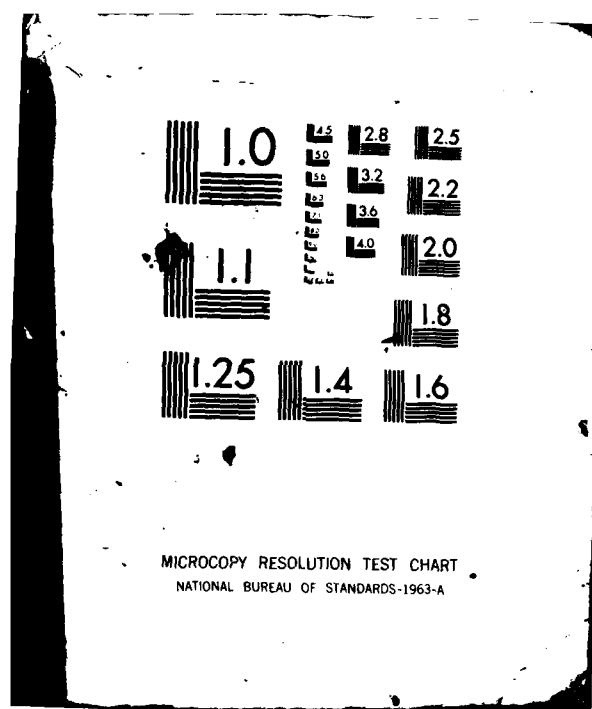


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**A SYSTEM FOR ASSESSING USER RESPONSE
TO NAVPERSRANDCEN RDT&E PRODUCTS**

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San Diego, California 92152**

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**A SYSTEM FOR ASSESSING USER RESPONSE
TO NAVPERSRANDCEN RDT&E PRODUCTS**

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FOREWORD

This effort was conducted in support of reimbursable work unit N0002281P053002 (Implementation Planning), under the sponsorship of the Chief of Naval Operations (OP-115). The objective was to develop a system that could provide some objective measures of NAVPERSRANDCEN's responsiveness to user requirements.

The overall findings indicate that a user-oriented tracking system can provide the means for initiating and maintaining a productive dialogue between operational consumers and research activities.

JAMES F. KELLY, JR.
Commanding Officer

JAMES J. REGAN
Technical Director



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Summary

Problem and Background

For some time, the Congress and the Department of Defense have been concerned about the relevance and utilization of human resource RDT&E end-products. The primary focus of this concern has been the need to develop methods to increase the probability that research products and outcomes will be used. In a 1977 report, the General Accounting Office (GAO) recommended that a management monitoring and feedback system be developed and implemented.

Objective

The objective of the effort was to develop a user-oriented system for assessing user response to the Center's products.

Approach

A system was developed to encourage users to evaluate research end-products. In this system, a report describing an R&D product and a Research Utilization Evaluation Report are mailed to previously identified users with a request for appropriate action. The report is designed to obtain information on the interactions between R&D producers and the user communities.

In FY81, NAVPERSRANDCEN sent 133 evaluation requests covering 61 reports. Of these, 79 were returned, for a response rate of 74 percent. The information provided by the returned questionnaires became part of a computerized data base immediately available for a variety of statistical and graphic representations.

Results

Overall, 79 percent of respondents felt that the amount and kind of communications with NAVPERSRANDCEN were sufficient. Sixty-four percent claimed an actual involvement with some aspect of the research effort, and 78 percent felt the degree of involvement with NAVPERSRANDCEN was sufficient. Fifty-nine percent predicted that the product would result in either cost savings or increased efficiency or effectiveness. Finally, a global estimate of user satisfaction showed that 76 percent of users responding were satisfied with the research product.

Conclusions

The results indicate that the system has potential for initiating and maintaining a productive dialogue between research producers and operational consumers. Data provided can be used for short- and long-term management decisions by offering long-term trend information on research product utilization across a wide range of user community categories.

Recommendations

It is recommended that the system be expanded to determine the value of using this type of feedback system.

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INTRODUCTION

Problem and Background

For some time, the Congress and the Department of Defense (DoD) have been concerned about the relevance and utilization of human resource RDT&E end-products. The primary focus of this concern has been on the need to develop methods designed to increase the probability that the research products and outcomes will be used. To illustrate, in 1977, the General Accounting Office, after an extensive review of tri-service human resources RDT&E laboratories, made the following recommendation: "A management monitoring and feedback system needs to be developed and implemented. The system can be used to see that usage criteria are applied. . .communications are taking place. . .and problems are given management attention."¹ DoD concurred in this recommendation.

In response to this concern, the Navy Personnel Research and Development Center (NAVPERSRANDCEN) included the following as goal number seven of its corporate 5-year plan (FY81-FY85): Develop a comprehensive applications program to enhance the Center's user orientation and to increase utilization of the Center's R&D products.

Objective

The objective of this effort was to develop a user-oriented system for assessing user response to NAVPERSRANDCEN products. This system will be a major step in attaining goal number seven.

APPROACH

In this system, which was designed based on earlier efforts by the Air Force Human Resources Laboratory, actual and potential users are encouraged to evaluate research end-products. The requested evaluations are structured in ways that describe the interactions between R&D producers of R&D and the user communities. In essence, the system provides measures of NAVPERSRANDCEN's responsiveness to user requirements.

During FY 1981, the system was pilot-tested using a selected sample of NAVPERSRANDCEN technical reports, special reports, and technical notes describing Center products. Commands previously identified as user organizations were asked to review the reports selected and complete a questionnaire designed to answer the following questions:

1. Type and frequency of communication between the user and NAVPERSRANDCEN.
2. The extent of user involvement in phases of the research, including planning, research design, analysis, and interim or final recommendations.
3. Satisfaction with the product's timeliness, completeness, clarity, relevance, feasibility of implementation, and projected benefits of implementation.

¹Human resources research and development results can be better managed--
Department of Defense. Washington, DC: Comptroller general's report to the Committee on Appropriations, House of Representatives, April 22, 1977.

4. Whether or not the user conducted a formal management review of the product.
5. Impact of the research.
6. Overall user evaluation of the research.

The data base developed in the pilot effort demonstrated the feasibility of the evaluative procedures. Further, the reactions of both users and research managers were sufficiently positive to warrant continuing development of the tracking system. The Chief of Naval Operations (OP-115) recognized the potential value of the tracking system, and provided the support required to continue development and to conduct a full-scale test of the system. This major effort, which involved all of the Center's FY81 report products, was initiated in October 1981 and completed in March 1982.

The steps in the user-oriented system are listed below:

1. When a report is ready for publication, the principal author or, if prepared by a contractor, the contracting officer's technical representative (COTR) is asked to provide the names, addresses, and telephone numbers of individuals who would be most likely to be aware of the described research effort and who would have a primary role in implementing the product.
2. A copy of the published report and the Research Utilization Evaluation Report (see appendix) are mailed to the previously identified users with a request for appropriate action.
3. If the evaluation report has not been returned within a reasonable length of time, a second request for evaluation is forwarded.
4. If the evaluation again is not returned, telephone contact is attempted as the final follow-up action.
5. Information provided by the returned questionnaires becomes part of a computerized data base immediately available for a variety of statistical and graphical manipulations.

In FY81, NAVPERSRANDCEN published 79 reports. User evaluations were not requested for 18 of these reports, either at the request of the research program director or because they were considered inappropriate for evaluation (e.g., bibliographies). For the remaining 61 reports, 133 evaluation requests were sent to individuals representing the following organizations:

1. Department of Defense.
2. Office of Personnel Management.
3. Chief of Naval Operations.
4. Headquarters, Marine Corps.
5. Chief of Naval Material.
6. Naval Education and Training Command.
7. Naval Technical Training Command.
8. Naval Military Personnel Command.
9. Navy Recruiting Command.
10. Office of Naval Research.
11. Navy Surface Weapons Center.

12. NAVPERSRANDCEN.²
13. Center for Naval Analyses.
14. Commander Naval Air Force, U.S. Pacific Fleet.
15. Commander Naval Air Force, U.S. Atlantic Fleet.

A total of 99 user evaluations were returned, for a response rate of 74 percent. Evaluations were not returned for eight of the reports.

RESULTS

Overall, 79 percent of the respondents felt that the amount and kind of communications with NAVPERSRANDCEN during the course of the research were sufficient. Sixty-four percent claimed that they were actually involved with some aspect of the research effort, and 78 percent felt that the degree of involvement with NAVPERSRANDCEN was sufficient. When asked to assess whether the end product would result in either cost savings or increased efficiency or effectiveness, 59 percent responded yes, and 45 percent indicated that the product's implementation potential had already been formally reviewed. This last percentage is somewhat misleading since some respondents claimed to have implemented the product on the day of receipt; therefore, a formal review of implementation potential was not required. Table 1 provides responses to these questions by general category of user.

A variety of elements enter into any assessment of user satisfaction with a given research product. These include (1) timeliness of completion, (2) the completeness of the effort, (3) clarity of the recommendations offered, (4) relevance of the findings to the problem, and (5) feasibility of implementation. This last element, in turn, reflects both the cost of implementation and the projected benefits. As shown in Table 2, there is a differential satisfaction with these elements on the part of the user community.

A global estimate of user satisfaction obtained showed that 76 percent of all users responding were satisfied with the research product. Table 3 provides a breakout by user.

The questionnaires also included a number of open-ended questions to obtain user comments on various aspects of Center research. The information provided by such comments is extremely valuable as a diagnostic aid, substantially increasing the quality of feedback to Center researchers. The following comments are representative of those extracted from user evaluations:

1. "It is anticipated that this screening vehicle will save a substantial amount of money by reducing recruiter turnover in the field due to failure. More importantly, it should increase average recruiter productivity."
2. "It is recommended that projects of this nature be coordinated with the system sponsor during the formulation phase (of the research) in order to obtain more beneficial data."

²For several reports, a code within NAVPERSRANDCEN was considered to be one of the users of the R&D end product reported.

Table 1
Percent of Users Answering "Yes" to Selected Questions

Question	CNET		CNO		CNM		CNTT		NMPC		OPM		NPRDC		All Others	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Was there sufficient communication with NAVPERSRANDCEN during the research?	15	93	15	67	9	89	10	90	5	100	4	75	9	100	13	33
Were you personally involved in any part of the research project?	19	63	17	53	12	58	10	70	7	57	5	40	9	100	16	73
Was there sufficient involvement with NAVPERSRANDCEN during the research?	15	87	16	69	11	73	9	89	5	100	4	100	9	100	11	30
Will the potential or actual impact of the research result in cost savings or increased efficiency/effectiveness?	15	60	15	47	9	56	6	83	3	67	2	50	8	63	12	64
Has there been a formal management review on the implementation potential of this report?	18	44	15	53	12	42	9	56	5	60	3	30	9	44	14	29

Table 2
Percent of User Satisfaction with Various Elements of NAVPERSRANDCEN Research

Element	Percentage		N Responses
	Satisfied	Dissatisfied	
Relevance	77	23	81
Completeness	74	26	87
Clarity	73	27	80
Projected benefits	74	26	79
Timeliness	66	34	85
Implementation feasibility	69	31	80
Projected cost	50	50	66

Table 3
Percent of Overall Satisfaction with NAVPERSRANDCEN Research by User

User	Satisfied	Dissatisfied
CNET	79	21
CNO	67	33
CNM	55	44
CNTT	88	12
NMPC	100	0
OPM	75	25
CNRC	100	0
NAVPERSRANDCEN	100	0
All others	67	33

3. "...results of this type effort need to be identified in terms of O&MN funding much earlier...one of the responsibilities of NAVPERSRANDCEN, when undertaking research efforts in direct support of fleet operations, is to forward...a financial estimate of follow-on operational training/training development necessary to complete the tasks..."

4. "As user and sponsor of this research effort, I couldn't be more pleased with the product."

CONCLUSION

The results clearly illustrate that the system has potential for initiating and maintaining a productive dialogue between research activities and operational consumers. Data obtained could serve to improve the quality of R&D management decisions, offering both long-term trend information and immediate feedback regarding product utilization across a wide range of user response combinations. Visualizing the user-oriented tracking system as a diagnostic evaluation could provide general and specific information on the status of the R&D program. In providing a delineation of problem areas, it can also indicate whether recommendations for corrective action can be reasonably inferred from the data.

Finally, since at least one aspect of defining productivity involves an assessment of quality rather than quantity of production, the system is able to offer management an alternative or supplemental productivity measure.

RECOMMENDATION

It is recommended that other Navy R&D laboratories determine the feasibility of using this type of tracking system.

APPENDIX
RESEARCH UTILIZATION EVALUATION REPORT

NAVY PERSONNEL RESEARCH AND DEVELOPMENT CENTER (NPRDC)
RESEARCH UTILIZATION EVALUATION REPORT

Send this form to NPRDC (Code 303), San Diego, CA 92152

(D8)
(R1)
(RS) P or S
(US)

I. Completed by NPRDC

(TT) Title of Product: _____

(PN) Technical Report Number: _____ (PE) Program Element Number: _____

(WU) Work Unit Number: _____

(OR) Original Requirement for this Project: _____

(PM) Contract/In-House: _____

(CO) Originating NPRDC Code: _____

(PI) NPRDC Principal Investigator for this Project: _____

(IV) Investigator Autovon Number: _____

II. Completed by User/Sponsor:

(UN) Name: _____ (RK) Rank: _____
Last First MI

(TI) Title: _____

(UV) Autovon Number: _____

(UC) Commercial Phone Number: _____

(OS) Office Symbol: _____

(UA) Address: _____
Base or City State Zip

(TU) Type of Customer: ___ 1 Navy ___ 2 Army ___ 3 Air Force
___ 4 Marine Corps ___ 5 University ___ 6 Other

(PO) User/Sponsor's Parent Organization: _____

The NPRDC Utilization and Appraisal Office is responsible for this evaluation form. If you have any questions, contact NPRDC (Code 303), San Diego, CA 92152. AV: 933-7450 or Commercial 714-225-7450.

III. During the course of this research project, about how often were each of the following forms of researcher-user communications used:

	(A)	(B)	(C)	(D)	(E)	(F)
	Weekly or more often	Monthly	Every two months	Twice a year	Once a year or less	Never
(TC) Telephone calls?	_____	_____	_____	_____	_____	_____
(WC) Written Communications (memos, progress reports, etc.)?	_____	_____	_____	_____	_____	_____
(PV) Personal visits?	_____	_____	_____	_____	_____	_____
(CW) Conferences, workshops?	_____	_____	_____	_____	_____	_____

Indicate your reaction to the following statements by circling the appropriate response (A or B).

A. The overall amount of researcher-user communication was sufficient for this project.

(FC) B. There should have been more researcher-user communication.

(F9)

IV. To what extent was your organization involved in the following stages of this research project:

(Fill in the blank with one of the numbers below)

- | | | |
|---------------------------|----------------------------|---------------|
| 1. To a very great extent | 4. To a little extent | 7. Don't know |
| 2. To a great extent | 5. To a very little extent | |
| 3. To a moderate extent | 6. None | |

(PS) ___ Planning: Identification of research needs, defining the objective(s), scope, data requirements, etc.

(DS) ___ Design: Deciding upon methodology, selection of techniques of data collection and/or analysis, design of data collection instruments, etc.

(AS) ___ Analysis: Description, explanation, interpretation of data.

(FS) ___ Formulation of Recommendations: Recommendation of adoption of new or revised programs, policies, procedures, regulation, manuals, equipment, courses of instruction, legislation, etc.

Indicate your reaction to the following statements by circling the appropriate response (A or B)

- (SS) A. For this research project, the total amount of user organizational involvement was sufficient.
- B. For this research project, there should have been more involvement by the user organization.

(S8) Were you personally involved in any of the above stages of the research project?

Yes _____ No _____

(S9) Comments:

V. How satisfied are you with each of the following aspects of this research:

(Fill in the blank with one of the numbers below)

- | | |
|--------------------------------------|--------------------------|
| 1. Very satisfied | 4. Somewhat dissatisfied |
| 2. Somewhat satisfied | 5. Very dissatisfied |
| 3. Neither satisfied or dissatisfied | |

(ST) _____ Timeliness of response?

(SC) _____ Completeness of study?

(SR) _____ Clarity of recommendations?

(SF) _____ Relevance of findings to the problem?

(SI) _____ Feasibility of implementation?

(SP) _____ Cost of implementation

(SB) _____ Projected benefits of implementation?

(SD) PROVIDE ANY INFORMATION AVAILABLE ON THE SATISFACTION OR DISSATISFACTION OF THE USER WITH THE RESULTS OF THE RESEARCH. (Provide documentation if available; e.g., letters, memorandums, etc.)

VI. Has there been a formal or management review of the implementation potential of this effort, e.g., by decision-making individuals or committees representing your Command or higher echelons?

(FF) _____ No. Why not? _____

_____ Yes. Please describe the findings of this review.

VII. The research will impact as follows (if applicable):

Place a "P" next to each item the research has a potential impact on.

Place an "A" next to each item that the research has already impacted on.

- | | | |
|------|-------|---|
| | | Operational Commanders |
| (OD) | _____ | Changes in doctrine |
| (OP) | _____ | Changes in procedures |
| (OI) | _____ | Information on human capabilities and limitations |
| (OM) | _____ | Modification in requirements for manpower or equipment |
| | | Personnel and Manpower |
| (CP) | _____ | Changes in management policy or techniques |
| (CC) | _____ | Changes in planning capability |
| (CR) | _____ | Changes in manpower requirements |
| (CS) | _____ | Solutions to specific problems |
| (CD) | _____ | Information on which to base R&D requirements |
| | | Training Managers |
| (DI) | _____ | Development of, or change in, course of instruction or training programs |
| (DR) | _____ | Development of requirements for training curricula and equipment |
| (DM) | _____ | Development of, or change in, instructional delivery methods and media |
| (MP) | _____ | Changes in management policy or practices |
| (TD) | _____ | Training device prototypes |
| (LO) | _____ | Information on which to base long range objectives and further R&D requirements |
| (EM) | _____ | Evaluation of specific materials and procedures |
| | | System Developers |
| (SH) | _____ | Information on human capabilities and limitations |
| (DE) | _____ | Evaluation of specific designs |
| (HF) | _____ | Human Factors Engineering (HFE) design principles |
| (HE) | _____ | Efficient ways of applying HFE |
| (DP) | _____ | Changes in development management practices |
| | | R&D Community |
| (RH) | _____ | Information about human capabilities and limitations |
| (RM) | _____ | Information on the effectiveness of various manpower, personnel, or training programs |
| (RT) | _____ | Solutions to technical problems |
| (RR) | _____ | Indications of further R&D requirements |
| (OT) | _____ | Other (describe) |

(SC) IF ANY OF THE PREVIOUS ITEMS ARE CHECKED WITH AN "A" OR "P", ATTACH DOCUMENTATION. IF ATTACHING DOCUMENTATION IS NOT FEASIBLE, PROVIDE SPECIFIC REFERENCES TO DOCUMENTATION, IF AVAILABLE.

(W8) VIII. Did the potential or actual impact of the research result in either cost savings, or increased efficiency or effectiveness?

_____ No _____ Yes

If yes, explain how. _____

IX. Did the research satisfy the user needs? (Circle one of the responses.)

- (SU)
- | | |
|---------------------------|----------------------------|
| 1. To a very great extent | 4. To a little extent |
| 2. To a great extent | 5. To a very little extent |
| 3. To a moderate extent | 6. Not at all |

Explain or expand your response to the question above if applicable.

(Z4)

- X. Where do you believe the authority to implement the bulk of the recommendations (if any) is located?
- (X1) A. No recommendations were made.
 B. The operational unit level.
 C. The intermediate management level.
 D. The major organization management level (Fleet or Systems Command)
 E. Office of CNO/Chief of Staff
 F. Secretary of Defense management level or above.
- XI. Which of the following best describes the role of your organization concerning the implementation of the recommendations?
- (X2) A. No recommendations were made.
 B. We have no role in implementation.
 C. We have only an advisory role.
 D. We participate in a group, committee or council which decides.
 E. We have the authority to make the implementation decisions.
- (X9)XII. If your response to the above question was "no role", or "only an advisory role", who does have the authority to make implementation decisions?
- XIII. Which of the following best describes the relationship of your organization to the program which was the primary subject of this report?
- (X3) A. We conduct the actual operations of the program but the overall management occurs at a higher level.
 B. We manage the program but the actual conduct of the operations of the program occurs at a lower level.
 C. We have the responsibility for both the actual conduct of the operations and the overall management of the program.
 D. We neither manage nor conduct the operations of the program but we advise either the managers or the operations.
- (X7) XIV. If dollar resources are required for implementation and operational use, have they been identified and added to the POM submission?
- Yes No Not Required
- (UT) XV. Comments:

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