

# REPORT TO THE CONGRESS



BY THE COMPTROLLER GENERAL  
OF THE UNITED STATES

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## An Organized Approach To Improving Federal Procurement And Acquisition Practices

During the past decade, Federal procurement and acquisition practices have been under extensive review:

- Numerous congressional hearings.
- Studies by Commissions and other groups.
- Continuing overview by the Office of Federal Procurement Policy.

Basic new directions in policies are beginning to take shape. A new Government-wide modern statutory foundation is under active consideration by the Congress.

In this report GAO urges, as have some others, establishment of a continuing research program to create better Federal procurement practices and to design and test the best ways to carry out new policies. Specific uses of such research are discussed, current Federal activities are summarized, and an organized approach to a Government-wide program is illustrated.

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COMPTROLLER GENERAL OF THE UNITED STATES  
WASHINGTON, D.C. 20548

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To the President of the Senate and the  
Speaker of the House of Representatives

This report recommends the use of a continuing research program to create better Federal procurement practices and design and test the best ways to carry out new policies. It summarizes current Federal activities in this area and illustrates an organized approach to a Government-wide program.

We made our review pursuant to the Budget and Accounting Act, 1921 (31 U.S.C. 53), and the Accounting and Auditing Act of 1950 (31 U.S.C. 67).

We are sending copies of this report to the Director, Office of Management and Budget, and to the heads of the various departments and agencies who rely on procurement and acquisition to accomplish their primary missions.

A handwritten signature in cursive script, appearing to read "Thomas A. Beate".

Comptroller General  
of the United States

COMPTROLLER GENERAL'S  
REPORT TO THE CONGRESS

AN ORGANIZED APPROACH TO  
IMPROVING FEDERAL PROCUREMENT  
AND ACQUISITION PRACTICES

D I G E S T

Large Government agencies--such as Defense, Energy, Transportation, Space, General Services--depend on systems, products, and services obtained from private enterprise to do their job. These activities cost about \$70 billion a year and involve about 60,000 Federal workers. (See p. 1.)

Over the past 30 years, procurement has expanded and become more complex. Efforts to solve problems have resulted in a complex patchwork of laws, methods, regulations, procedures, and administrative requirements. Not all of the old problems have been solved and new ones continue to arise. (See pp. 9, 10, and 29.)

This entire body of procurement and acquisition policies has been examined and reexamined by the Congress, the executive branch, and various study groups. New basic directions in policy, including legislation, are beginning to take shape. (See pp. 1, 11, and 29.)

After years of supporting reform, the Congress will want to see substantial improvement in Federal procurement and acquisition practices. (See pp. 29 and 30.)

Both the House Government Operations Committee and the Commission on Government Procurement recommended a continuing program of research to make Federal procurement practices work better and to design and test the best ways to carry out new policies; i.e., using a scientific approach to improving Federal procurement. (See pp. 2 and 3.)

Currently, there are no procurement research programs in some agencies. In others there are a few relatively new ones. (See pp. 2 to 7.)

Civilian agencies generally are reluctant to undertake procurement research. Within some quarters of the Department of Defense, procurement research has been going on for about 6 years. Even so, the general condition is one of insufficient momentum. (See pp. 5 and 8.)

Some agencies expect the newly emerging Federal Procurement Institute to carry this burden. The Institute is only now being established, however, and will take some time to become operationally effective. Even then it will not perform research roles for the individual agencies. (See pp. 3 and 8.)

GAO's overall recommendation to the Office of Management and Budget is that a strong program for procurement and acquisition research be established on a Government-wide basis. Various uses of such research are discussed and a framework for organizing and operating a program is illustrated, setting forth:

- Definitions of the procurement research function, narrow and broad, and urging use of the latter. (See pp. 13 and 14.)
- Basic prerequisites for operating the program. (See p. 15.)
- Roles of participants; i.e., Federal agencies, the Federal Procurement Institute, and the Office of Federal Procurement Policy. (See p. 16.)
- Considerations in screening research needs, selecting projects, conducting the research itself, and evaluating results. (See pp. 17 to 25.)

The Office of Management and Budget shares GAO's concern that not enough attention has been devoted to research of procurement policies and practices. It said the summary of current activity and the organized approach outlined in this report will be useful in promoting a Government-wide research program. (See app. VI, p. 48.)

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ABBREVIATIONS

DOD Department of Defense  
DOT Department of Transportation  
ERDA Energy Research and Development Administration  
FPI Federal Procurement Institute  
GAO General Accounting Office  
GSA General Services Administration  
NASA National Aeronautics and Space Administration  
OFPP Office of Federal Procurement Policy  
OMB Office of Management and Budget

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## CHAPTER 1

### PURPOSE OF REPORT

Federal spending to acquire systems, goods, and services now exceeds \$70 billion a year and involves about 60,000 Federal employees. Executive agencies--such as the Department of Defense (DOD), Energy Research and Development Administration (ERDA), Department of Transportation (DOT), National Aeronautics and Space Administration (NASA), and General Services Administration (GSA)--rely on acquisition and procurement activities to accomplish their primary missions. For example, the costs of acquiring new major systems under Federal contracts are estimated at \$452 billion (civilian \$203, and defense \$244) and their lifetime operating costs may run several times more. 1/

During the past few years, the entire Federal body of procurement and acquisition policies has been examined at great length. This examination included a study by the congressional Commission on Government Procurement, an executive branch evaluation of its report, continuing overview by the Office of Federal Procurement Policy (OFPP), and numerous congressional hearings. Basic policy and procedural redirections are now taking shape and a new Government-wide modern statutory foundation is under active consideration in the Congress.

This report is a followup to a Procurement Commission and congressional committee recommendation that a continuing program of research be used to improve Federal procurement practices and design and test procedures for new policies.

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1/GAO Report, "Financial Status of Major Acquisitions," (PSAD-77-62, Jan. 1977).

## CHAPTER 2

### CURRENT POSTURE

Today a program of organized research into Federal procurement and acquisition practices does not exist on a Government-wide basis or within an executive department. The present pattern of research efforts by executive agencies is mixed, ranging from no program to a few efforts in DOD. 1/

### HISTORICAL EVOLUTION

In the late 1960s an idea took hold within DOD that research, systematically applied, could be used to improve procurement practices. In 1969, in response to continued problems with cost overruns, Secretary of Defense Clark Clifford proposed a "Procurement Research Laboratory" as a mechanism for developing and testing new procurement ideas and applying lessons learned.

The House Committee on Government Operations endorsed the idea and said the DOD research laboratory should

- develop, test, and innovate procurement methods on a systematic basis;
- coordinate efforts within the agency;
- test the effect of major new policies and procedures on Government activities and industry before their issuance; and
- provide a consulting and training capability to exploit significant developments. 2/

In the early 1970s, the Commission on Government Procurement looked into the matter on a Government-wide basis. It found that some agencies did not favor internal agency

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1/The House Appropriations Committee recently noted weaknesses in DOD efforts, including inadequate planning, duplication, lack of data to demonstrate study costs and benefits, research reporting breakdowns, and little utilization of results. "Logistics Management Studies within the Department of Defense," a study conducted by the Surveys and Investigations Staff of the House Appropriations Committee, Mar. 1977.

2/House Report No. 91-1716, "Policy Changes in Weapon System Procurement," Dec. 1970, pp. 33 and 34.

research; in some cases because of the agency's low volume of procurement, and in other cases because the agency felt that

- ad hoc management studies, in lieu of formal research programs, are more effective in solving their problems;
- an agency program would impose an undue burden on its resources and could result in research duplication; and
- a joint interagency or Government-wide approach is more economical and realistic for meeting agency research needs.

The Procurement Commission recommended establishment of a Federal Procurement Institute (FPI) with Government-wide coordination of research as one of its operating functions. <sup>1/</sup> It did not exclude the idea that executive agencies could usefully do research on their own, and it supported the concept of a DOD research laboratory.

#### OVERALL FEDERAL POSTURE

##### FPI

The Administrator, OFPP, created FPI in July 1976. He chairs FPI's policy board with representatives from 16 agencies and departments. DOD, as Executive Agent, will run FPI. Under the present FPI action plan, 2 of the initial 16 professionals will be assigned to the research area.

FPI's role, when operational, will be to coordinate existing procurement research efforts; disseminate findings; and identify, promote, and conduct long-range and independent research having a high impact on Government-wide procurement issues and problems. Not all of this research would be transferable to each executive agency due to differences in organization, operation, and mission. Also, individual agencies have unique procurement problems which can best be solved by their own research efforts.

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<sup>1/</sup>Report of the Commission on Government Procurement, Dec. 1972, p. 52.

Figure 2-1 summarizes the current posture of research within five major executive agencies which collectively account for most of the Federal spending in procurement and acquisition.

**Figure 2-1**  
**FEDERAL RESEARCH POSTURE**

	<u>DOD</u>	<u>ERDA</u>	<u>NASA</u>	<u>GSA</u>	<u>DOT</u>
Reliance on procurement/acquisition to carry out missions	Almost totally	Essentially complete reliance	80% budget	Very heavy reliance	Considerable reliance
Procurement/acquisition expenditures FY 1976 (billions)	\$46.9	\$4.2	\$3.2	\$1.7	\$1.0
Program for procurement/acquisition research	Partial	No	No	No	No
Research expenditures FY 1976	\$834,000	None	None	None	None
Number of research projects started past 3 fiscal years	132	"	"	"	"
Number of projects completed	124	"	"	"	"
Number of projects planned for FY 1977	53	"	"	"	"
Number of researchers full-time/part-time	Average 31/166	"	"	"	"
Sources of research:					
In-house centers	x	"	"	"	"
Contracts	x	"	"	"	"
Schools	x	"	"	"	"
Informal ad hoc channels	x	x	"	"	"

Source: Agency responses to our letter.

### Civilian agencies

As shown in figure 2-1, none of the civilian agencies have a regular research program. Both ERDA and DOT use ad hoc approaches to solve immediate problems or select procurement and acquisition methods. The following views were expressed:

- ERDA deferred judgment on the matter to its newly appointed acquisition executive who will be responsible for research to more effectively implement agency policy.
- NASA feels that any research program should be a joint effort participated in and supported by OFPP and FPI. Independent agency action, it said, would fractionalize and duplicate efforts.
- GSA has established an office to respond to major system policy in OMB Circular A-109. When progress is well underway, GSA will examine the possibility of establishing a research program.
- DOT believes CFPP should coordinate acquisition research to avoid duplication of effort and wasteful expenditure of scarce resources. DOT would participate in interagency research efforts to the extent permitted by available resources.

### Defense activities

Before a recent reorganization, the focal point for research efforts in the military departments was a Procurement Coordination Council reporting to the Office of the Assistant Secretary of Defense, Installations and Logistics. The Council had quarterly meetings with military department researchers and conducted annual research symposiums to exchange ideas on current or proposed research projects. Under the new organization, the specific assignment of procurement research responsibility had not yet been decided as of August 1977. 1/

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1/Under the new organization, procurement policy responsibility shifts to the Office of the Director of Defense Research and Engineering. The Director is also to be the agency's Acquisition Executive under OMB Circular A-109.

Figure 2-2 shows the posture of research in the individual military departments and the Defense Logistics Agency.

**FIGURE 2-2**

**DEPARTMENT OF DEFENSE RESEARCH POSTURE**

	<u>Army</u>	<u>Air Force</u>	<u>Navy</u>	<u>DLA</u>	<u>Total DOD</u>
Procurement/acquisition expenditures FY 1976 (billions)	\$10.5	\$15.1	\$15.4	\$5.9	\$46.9
Program for procurement/acquisition research	Yes	Yes	Yes	No	Yes
Research expenditures FY 1976	\$400,000	\$167,000	\$267,000	None	\$834,000
Number of research projects started past 3 fiscal years	66	56	10	"	132
Number of projects completed during past 3 fiscal years	66	54	4	"	124
Number of projects planned for FY 1977	18	30	5	"	53
Number of researchers full-time/part-time (average)	15/16	6/150	a/10	"	31/166
Sources of research:					
In-house centers	x	x	x	"	x
Contracts		x	x	"	x
Schools	x	x	y	"	x
Informal ad hoc channels		x		"	x

a/Combination of full-time and part-time.

Source: DOD. The data on the number of research projects should be used cautiously as each military department uses different criteria in determining what they count as research. In some cases, they include agency staff studies or a student thesis. In other cases, they include research by military school faculty members or by full-time researchers. The numbers of research projects shown could not be verified by Defense Logistics Studies Information Exchange due to breakdowns in agency reporting on research. This breakdown was also noted in a study conducted by the House Appropriations Committee's Surveys and Investigations Staff.

### Army

In 1970 the Army, the first military service to take this step, established a Procurement Research Office at the Army Logistics Management Center, Fort Lee, Va. The Office has an average staff of 18 researchers and does not contract out any research. It develops and tests improved procurement techniques, and provides consultation on emerging procurement problems, and graduate studies related to procurement. The staff has primarily a procurement background but includes a few with other disciplines, such as economists, statisticians, industrial engineers, and operations research analysts.

### Air Force

The Air Force research counterpart, the Business Research Management Center, was established in 1973. Policy guidance comes from an advisory board, chaired by the Director of Procurement Policy, Headquarters, USAF. In lieu of conducting actual research, the professional staff acts as a catalyst or research broker of projects to be undertaken by others. The center also solicits agency sponsors who can use the research results to provide resources and data. The research is performed by

- joint teams from the Air Force Academy and Contract Management Division,
- graduate school faculty/students,
- operating elements of major commands, and
- private contractors.

### Navy

Before 1975 faculty and graduate students of the Naval Postgraduate School in Monterey, Calif., carried on a small research effort. In 1976 the Navy established a new effort. It is managed by the Office of Naval Research through a council consisting of procurement and acquisition people from several naval commands, the Office of the Chief of Naval Operations, and the Naval Postgraduate School. The council seeks out ways to improve major system procurement management through research. To help support the new effort, the Navy, in early 1977, established a Center for Acquisition Research at the Naval Postgraduate School.

\* \* \* \* \*

A new DOD Directive 1/ has been issued encouraging the military services to improve their acquisition and business management practices through research and to concentrate on "fundamental causes rather than immediate effects." (See app. I, p. 31.) The directive reflects to some extent past DOD procurement research practices. It also adopts some of the thoughts in this report. It includes, for example, a research guide similar to the one presented in chapter 4 for organizing and operating a research program (compare fig. 4-9, p. 27, and app. I, p. 37).

#### SUMMARY

Civilian agencies are generally reluctant to undertake procurement research, even research peculiar to their own special needs. Within DOD, procurement research has been going on in some quarters for about 6 years. But there is a general appearance of insufficient momentum to achieve the necessary research capabilities for current research needs and the even larger future needs. A congressional observer noted (see app. II, p. 39):

"\* \* \* Viewed from a distance, these efforts seem tentative and diffuse, as if DOD were convinced as a matter of policy that more and better procurement research is needed but were not certain how to carry through. Each military service seems to be separately pondering what is embraced in procurement research, how it should be organized and conducted, the appropriate level of funding, the clientele to be served, and the means of disseminating research data."

Some agencies are expecting the emerging FPI to carry the burden of Federal procurement research. This is premature as FPI is just being established and may take years to become fully operational. Even then, it cannot perform the research roles of the individual agencies.

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1/Procurement Research Directive 4105.68, June 1977.

### CHAPTER 3

#### WHY RESEARCH

"\* \* \* a rather widespread conviction [exists] that much is amiss in Government procurement \* \* \* it is plausible, indeed persuasive, to argue that procurement research is a good investment promising large dividends in money savings and more efficient and effective performance.

"The dilemma \* \* \* is that until considerable resources are devoted to procurement research, and the efforts are sufficiently well-organized, the results will be spotty and meager; but without substantial results it is difficult to get the desired allocation and organization of resources. In this circumstance we have to fall back on America's faith that research does bring useful results." 1/

Research into procurement and acquisition practices entails critical investigation and experimentation aimed at gaining new insights into current processes, making new discoveries, and devising and testing new methods and procedures.

This kind of fundamental research is not within the scope of busy operating people or attainable by ad hoc committees. The Procurement Commission noted that too often past attempts have addressed symptomatic problems on an individual piecemeal basis, and:

"Patchwork corrective action has become counterproductive, leading to more regulations to amend regulations, more people to check people, more procedures to correct procedures, and more organizations to correct organization problems."

A more organized approach using proven research methods should help agencies to

- identify and solve ongoing problems,
- put into effect new policy changes,
- innovate procedural improvements,

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1/Herbert Roback, "Toward More and Better Procurement Research," Defense Management Journal, July 1975, included as app. II.

--evaluate experiences and interchange ideas  
Government-wide, and

-contribute to education and training.

#### IDENTIFYING AND SOLVING PROBLEMS

Research can be used to sort out symptoms from underlying problems and design corrective measures. In the past, agency attention has focused on regulating the back end of the procurement process where the symptoms of problems eventually surfaced. The underlying problems were found, however, at the front end. 1/

Research would first identify and validate underlying problems and then search out alternative solutions for management review. Such solutions would stress more what needs to be accomplished rather than attempt to tell people how to do it. Some areas where underlying problems need to be identified and solutions explored include:

- Increasing quality of the work force. Ways could be sought through research to increase the latitude for decisionmaking and career development of procurement and acquisition officials. The desired outcome would be to substitute good business judgment for reliance on multiple layers of supervision, extensive regulations, and the overburdened disputes machinery.
- Simplifying, unifying regulations. Research could be used to find out how this could be best accomplished. Should regulations be confined to just basic requirements? What are the kinds of matters that should or should not receive regulatory treatment? What size should the regulations be (hundreds vs. thousands of pages) to permit people to comprehend them and to keep abreast of changes? Should regulations be functional, that is, tailored to small purchases, commercial products, or major systems? How should they be written to be readily understood and to permit using identical language for all agencies? Should they be oriented to expected results or should they include means to achieve results? Should they be written in layman or legal terms?
- Increasing product performance, reducing cost growth. Research could be used to identify in new products and systems, the causes of undue complexity and low

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1/Report of the Commission on Government Procurement, vol. 2, pp. 69 to 70 and 166 to 167.

reliability, and the causes of major unanticipated cost increases.

### RESPONDING TO POLICY CHANGES

Some new congressional and executive policy direction may require research to design and explore procedures to meet their objectives and to test such procedures under operating conditions. The Congress is considering legislation that would make fundamental revisions in the statutory foundation Government-wide. (See Senate bill S. 1264.) OFPP has recently established new executive branch policies for major systems and commercial products. <sup>1/</sup> These policies are causing a fundamental change in how agencies conduct their internal operations and how they do business with industry.

For example, historically, the functions of (1) determining the kind of new major system and its basic design and (2) procuring it, were isolated from each other in the agency. The first and most important function escaped the rigor and challenge of competition. Under the new OMB Circular, the two functions work together in response to an agency statement of mission need. Alternative designs to meet the need are then explored competitively. Figure 3-1 identifies potential research projects that might be useful in putting the new circular into operation.

FIGURE 3-1

POTENTIAL RESEARCH PROJECTS FOR  
NEW MAJOR SYSTEM POLICIES

Conducting analyses of agency missions and developing statements of missions needs.

Incorporating mission needs, program goals, and agency operating constraints in a request for proposal.

Contracting on a short-term, renewable basis to explore alternative design candidates.

Managing competitive contracts and narrowing down alternative design candidates for continued funding.

Evaluating alternatives and choosing the preferred solutions for entry into full-scale development.

<sup>1/</sup>OMB Circular A-109, "Major System Acquisitions," April 1976; and OFPP Memorandum to selected agency heads, "Procurement and Supply of Commercial Products," May 1976.

### ACHIEVING INNOVATIVE IMPROVEMENTS

Long-range innovative improvements can be accomplished through research which advances knowledge. The techniques and insights eventually gained should help to solve basic agency problems and minimize the need for continuous congressional oversight, outside studies, and statutory commissions.

### EVALUATING EXPERIENCES, INTERCHANGING IDEAS

A research program can gather and evaluate actual experiences on specific programs so that lessons learned may be documented for future use. Collectively, research can provide a means for agencies and their components to interchange ideas and research results.

### CONTRIBUTING TO EDUCATION AND TRAINING

A scattering of procurement or system acquisition courses are offered in colleges or universities, but text material available for either degree or nondegree programs is very limited. As one university professor said during our review:

"Research, conducted on a continuing basis \* \* \* could greatly enhance our understanding of the processes and their effects \* \* \* lead to more effective policy development and to a broader public recognition of the impacts and benefits of sound procurement policies and practices \* \* \* [there is] a need for a more conceptually sound perception of procurement and for the development of a literature reflecting that conception."

## CHAPTER 4

### AN ORGANIZED APPROACH

We surveyed the management of various research activities and held discussions with experts in the field. From the survey, we developed a model framework to explore (1) an organized approach to procurement and acquisition research in the Federal Government and (2) operating approaches to getting the most benefits from the research work. This chapter discusses the framework.

#### THE RESEARCH TURF

The term "procurement" has been used by the Congress, the Commission, and OFPP in a broad sense to cover the entire spectrum of acquisition activities, starting with defining an agency's need and ending with disposal of whatever is obtained to fill that need. It has also been defined by these same sources to include all purchases by Federal agencies that range from standard commercial supplies and services to the most complex national systems, such as defense weapons, transportation systems like the Washington Metro, nuclear energy plants, and space systems.

On the other hand, operating agencies have defined the procurement operating function much more narrowly. Traditionally, the agency procurement process begins with preparation of a purchase request for a particular item and ends with delivery of that item. A major agency recently stated the problem this way:

"\* \* \* there is no clear definition of the procurement operation. Does the procurement function limit itself to the rather narrow confines of the contractual instrument or does it encompass the acquisition process? Are Source Selection, Advance Procurement Planning and Life Cycle Cost computations part of the procurement function or are they part of the acquisition process and thus in a separate functional area? \* \* \* the procurement curriculum contains no mandatory courses at any level outside the technical field of contracting. \* \* \* Has the \* \* \* procurement function [been defined] too narrowly? 1/

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1/April 22, 1977, Memorandum from the Office of the Assistant Secretary of Defense, Installations and Logistics, to members of the Commission on Government Procurement recommendation A-18 subcommittee.

How broadly procurement is defined is critical because among other things it determines

- the nature and extent of needed research,
- the kinds of knowledge and data collected and stored in the research base,
- the types of disciplines and depth of needed researcher skills,
- the scope and range of research topics, and
- the organizational clients who may need or use research results.

Construing procurement too narrowly has had adverse effects, such as when contracting methods and procedures were singled out in the 1960s to remedy past ills. The Commission found that these ills were rooted in much earlier actions or inactions when defining what to procure. 1/

For the purpose of this report and the framework that follows, the terms "procurement" and "acquisition" are used interchangeably to comprehend

- defining a need;
- budgeting and financing;
- soliciting and exploring alternative solutions;
- conducting test demonstrations;
- choosing what to procure;
- selecting sources;
- conducting price and cost analyses;
- contract negotiation, award, and administration; and
- operational use and disposal.

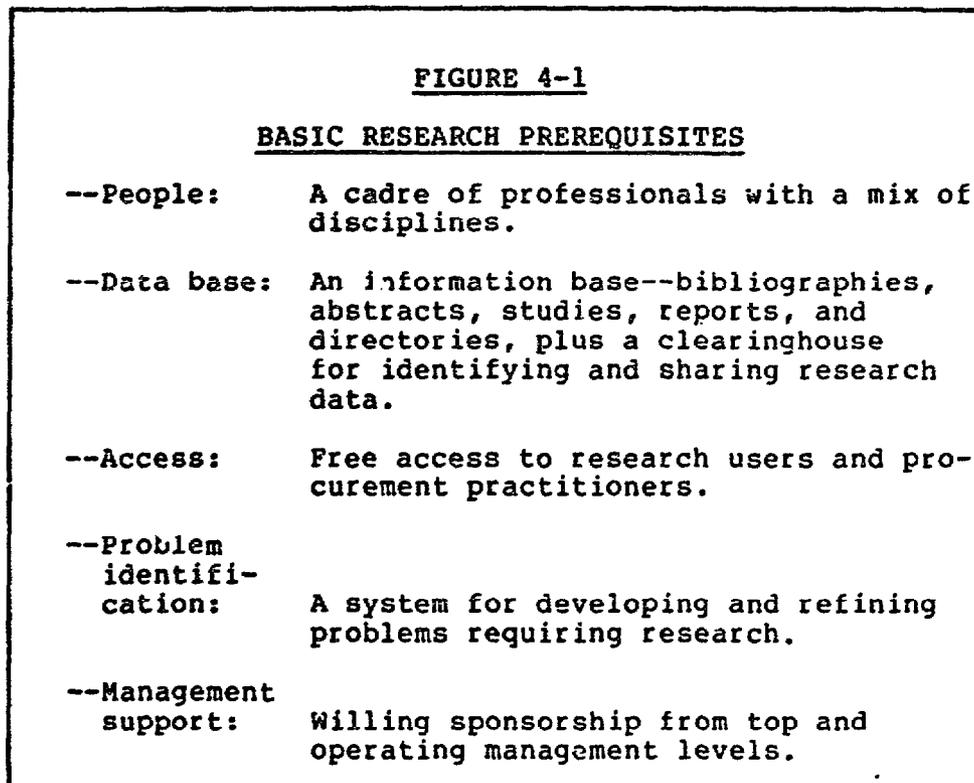
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1/Report of the Commission on Government Procurement, vol. II, pp. 166 to 167.

In making procurement decisions, cost implications would include all agency mission operating and disposal costs associated with lifetime use of the particular product or service chosen to meet a given need.

#### BASIC PREREQUISITES

For any research program to operate effectively, there are certain basic prerequisites that must be present. They are identified in figure 4-1.



The basic prerequisites shown in figure 4-1 are largely self-explanatory. Information data banks are already in the Federal Government supporting various technical and managerial study efforts, such as procurement and acquisition. (See app. III., p. 42.) Also, to assist procurement researchers in getting data, DOD has published two guides. (See app. IV, p. 43.)

## EXECUTIVE BRANCH ROLES

Figure 4-2 outlines potential roles of executive branch participants in a Federal research program and the rationale for each role.

**FIGURE 4-2**  
**EXECUTIVE BRANCH ROLES IN GOVERNMENT-WIDE RESEARCH PROGRAMS**

<u>Participant</u>	<u>Role</u>	<u>Rationale</u>
OFPP	Government-wide leadership and coordination	OFPP operates under a statutory mandate. One of its roles is "promoting and conducting research in procurement policies, regulations, procedures, and forms." OFPP, acting in concert with the new FPI, represents a logical focal point for Government-wide research.
FPI	Encourage, initiate, and evaluate long-range innovative research Government-wide	FPI is guided by a multiagency policy board chaired by OFPP and operated by an Executive Agent (DOD). One of its tasks is to: "Promote, monitor, and conduct research to develop business method and management techniques that will advance the state-of-the-art in procurement."
Agency Acquisition Executive	Overall responsibility for research within an individual agency	The Acquisition Executive is assigned a pivotal agency policy and monitoring role in each agency for major systems by OMB Circular A-109. He is expected to coordinate agency-wide responses to procurement and acquisition problems and policy changes and, therefore, is in an excellent position to judge research needs and priorities and use the results.
Agency operating Elements	Clients of research activity at any agency level	Agency operating elements would be the principal beneficiaries of research and would help activate research projects. For example, faced with problems or with major new policy or procedural initiatives, managers of the agency operating elements could turn to their research activity for support.
Agency Research Activity	Entity managing/conducting the research	The Agency Research Activity is the entity used to obtain research results whether done in-house, under contract with private firms, by a combined in-house and contractual effort, or through grants to universities.

Some of these roles are beginning to evolve, such as the first two--OFPP and FPI. Other roles have not yet been developed, such as the acquisition executive role of overseeing needs and priorities agencywide and acting on research results. Development of close working relationships between these various roles is important; otherwise, researchers will find themselves isolated from policymakers and operations. <sup>1/</sup>

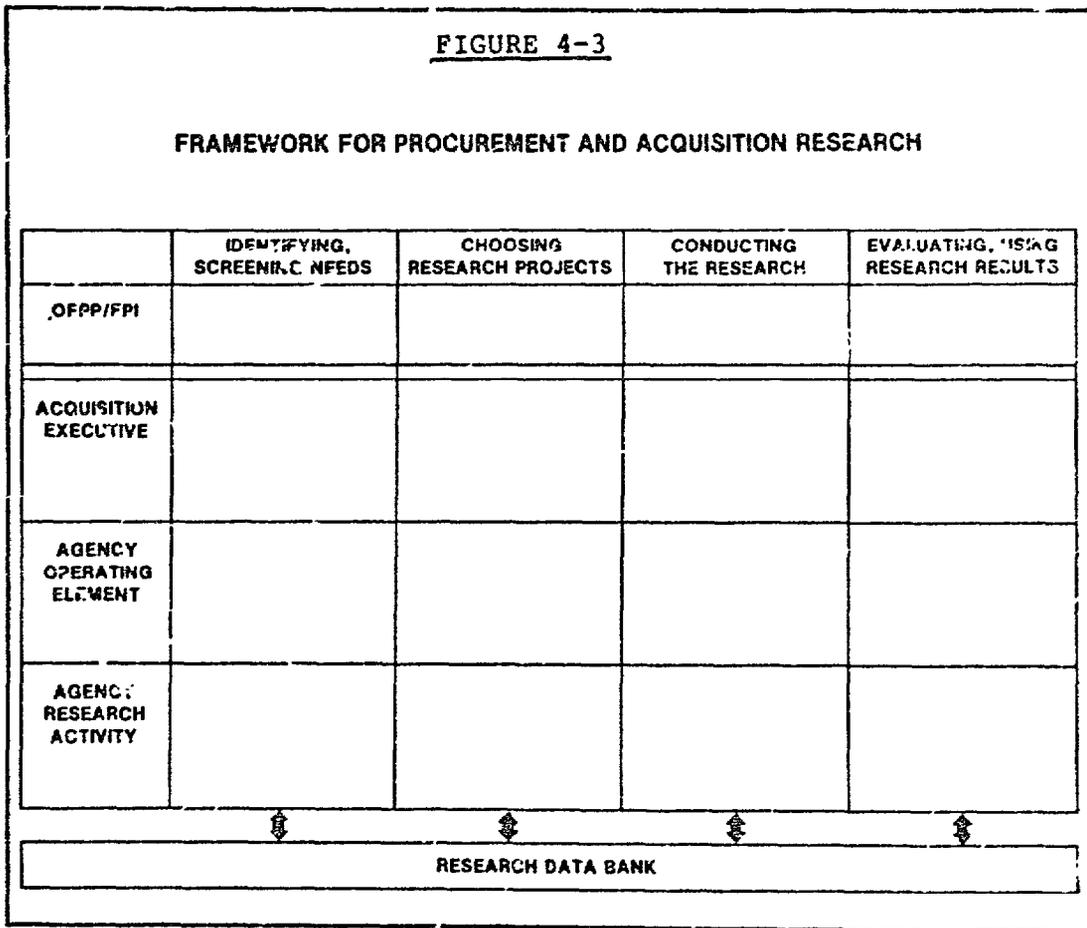
<sup>1/</sup>The theme of researcher isolation and difficulties in securing agency sponsorship was expressed at the June 1977 Procurement Research Symposium held in West Point, N.Y.

OPERATING CONSIDERATIONS

To further illustrate an organized approach to research four basic steps are used:

- Identifying and screening research needs.
- Choosing research projects.
- Conducting the research.
- Evaluating and using research results.

Figure 4-3 portrays the basic steps in a framework that will be gradually expanded to show how they work and fit in with the executive branch roles previously discussed.



Identifying and screening research needs 74

The first basic step of identifying and screening research needs and setting priorities is, perhaps, the most crucial one. It starts with a systematic identification of procurement and acquisition research needs and alternative research candidates to meet those needs. Illustrations of criteria required to help screen and set priorities on such needs are

- chronic problem areas,
- major policy changes,
- agencywide impacts, and
- high dollars or public interest.

Examples of research candidates falling under the first two criteria are discussed in the previous chapter. (See pp. 10 and 11.) Research candidates need not be limited to those identified within an agency but may come from outside sources. Two primary sources for identifying research needs are OFPP and FPI. Being aware of critical policy issues and problems with broad interagency or congressional implications, they can initiate collaborative Government-wide studies. Figure 4-4 identifies various sources of research needs and candidate projects.

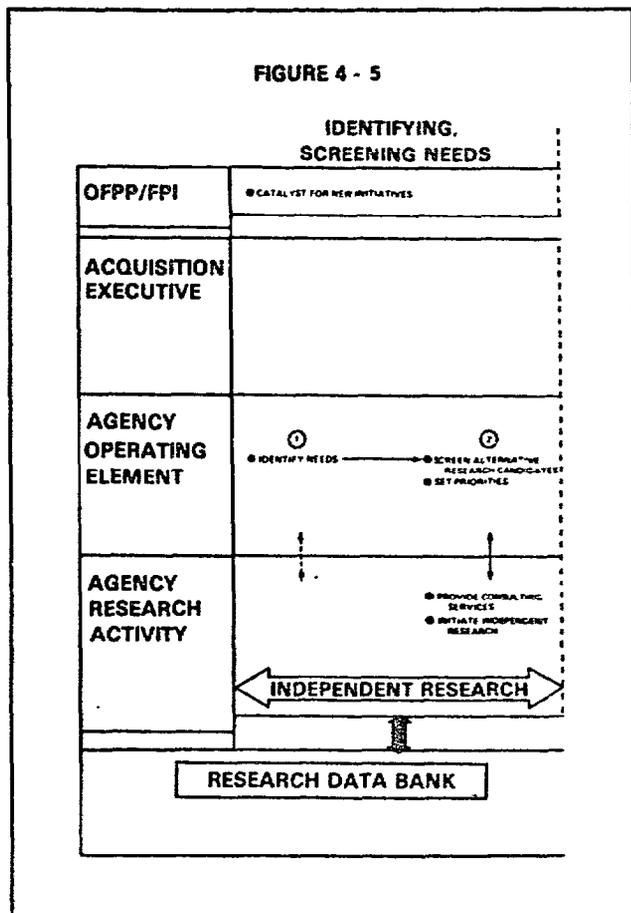
<u>FIGURE 4-4</u>	
<u>SOURCES OF RESEARCH CANDIDATES</u>	
<u>Primary</u>	<u>Other</u>
OFPP/FPI	Universities
Research activities	Private research institutes
Agency top management	Government schools/faculty/students
Agency operating elements	Private individuals/contractors
Agency user elements	Professional journals
The Congress	Other media
U.S. GAO	
Industry associations	
Professional societies	

Independent research

The researchers themselves are another source of re- search candidates. Through their literature searches, in- formation exchange programs, and contacts with operations, they become aware of opportunity breakthroughs and new areas with promising prospects for innovative research. A univer- sity professor confirmed what others said during the review:

"A researcher may well perceive of needs for re- search which are not yet recognized as problems or subjects for change. The product of such effort could form the basis for new policy or it could sim- ply enhance the literature of the field."

The first research step just described is portrayed in figure 4-5.

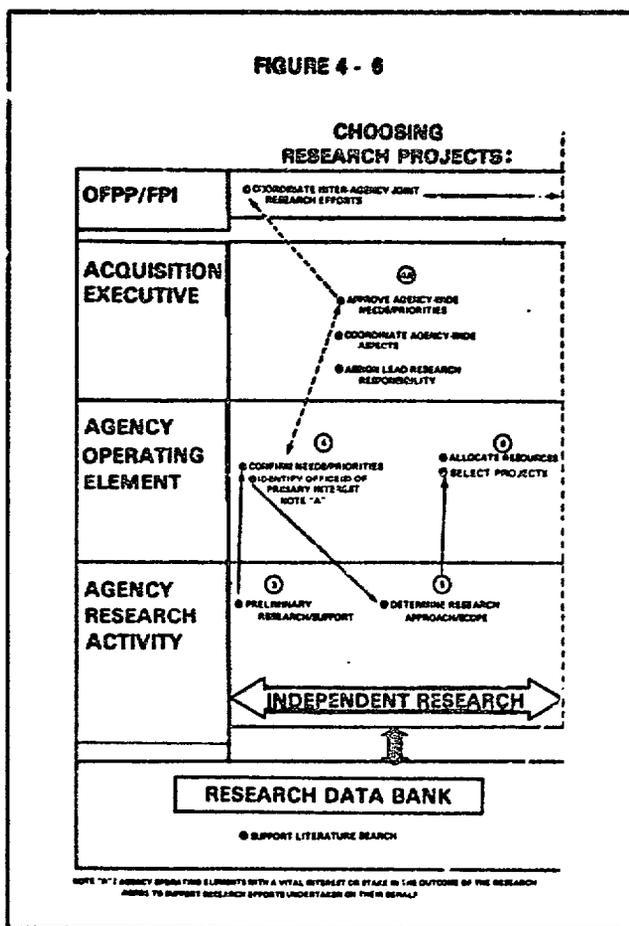


### Choosing research projects

The second basic step--choosing research projects-- involves doing preliminary research to explore the most promising candidates, soliciting operating agency viewpoints, and obtaining approvals of the agency's acquisition executive for agencywide research projects which deal with universal problems or policy applications. The research activity would do preliminary work and, as previously indicated, have discretionary resources for conducting independent research.

For new research projects, close involvement and support is needed from affected operating elements. For this purpose, agency offices of primary interest could be identified. These offices would typically have the greatest stake or interest in the research outcome. The office of primary interest would help the researcher achieve access to people and data and bridge the gap between operational elements and the research activity. This kind of liaison supports researchers and, at the same time, enables them to keep in touch with the operational implications of their ongoing research. Later, the support would be present to help generate changes in agency policies, procedures, and behavior patterns.

The criteria used for setting need priorities and screening candidates in the first basic step would again be used here to guide the final choice of projects to be re-researched. The second basic step is graphically illustrated in figure 4-6.



### Conducting the research

The third step is conducting the research. A few basic considerations are highlighted.

Interdisciplinary research teams with multiple talents, disciplines, and backgrounds are important to accomplishing complex projects. Such teams might include individuals from the research community as well as from operating elements with a mix of technical and management disciplines. This arrangement tends to "beef up" research teams since it permits them to interact continuously, draw upon various needed skills, and take an integrated view of the total process. The end result is a quicker and better research product as well as a greater possibility that the agency will act on it.

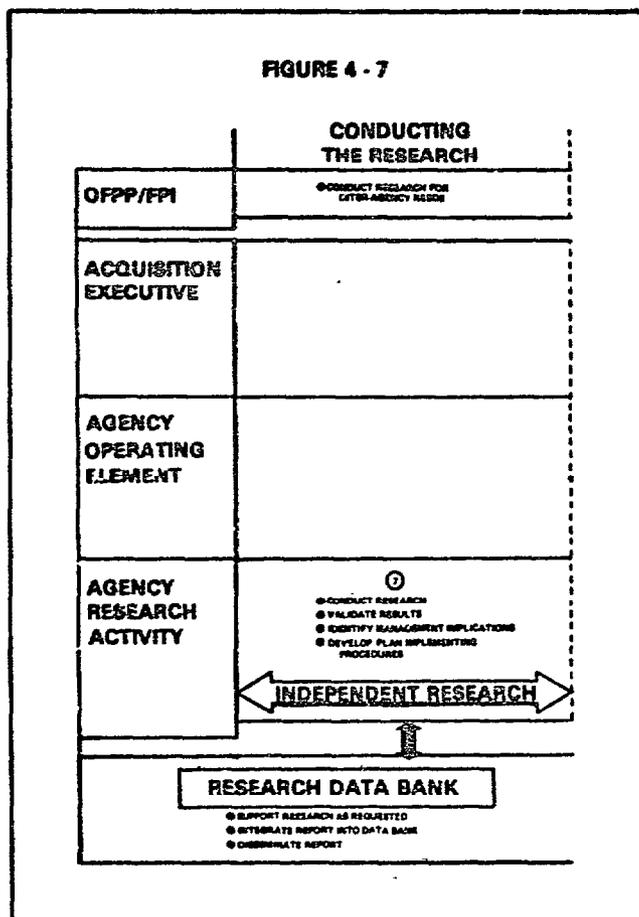
Validating research results is essential to avoiding improper conclusions and seeing that what is proposed is workable. Research products, for example, need to be subjected to realistic judgments of the Federal procurement and acquisition community, including peer reviews within the research community backed up by such approaches as Government-wide research symposia or conferences. FPI, by virtue of its broad charter, would be in a unique position to establish research standards and oversee a Government/university peer review system for procurement and acquisition research products.

Implications of research results need to be identified in terms understandable to operating managers. If the implications are not clearly conveyed by the researcher, worthwhile research products may be lost without the opportunity of being tested or applied. Agency managers need to understand, for example:

- Impacts of research recommendations on agency mission effectiveness and cost.
- Risks and benefits of taking or not taking action.
- Matters transcending the immediate issue.

Developing suggested implementing procedures helps to discipline the research efforts, and when designed with the capabilities and limitations of an agency's operational environment in mind, will help the research product gain acceptance.

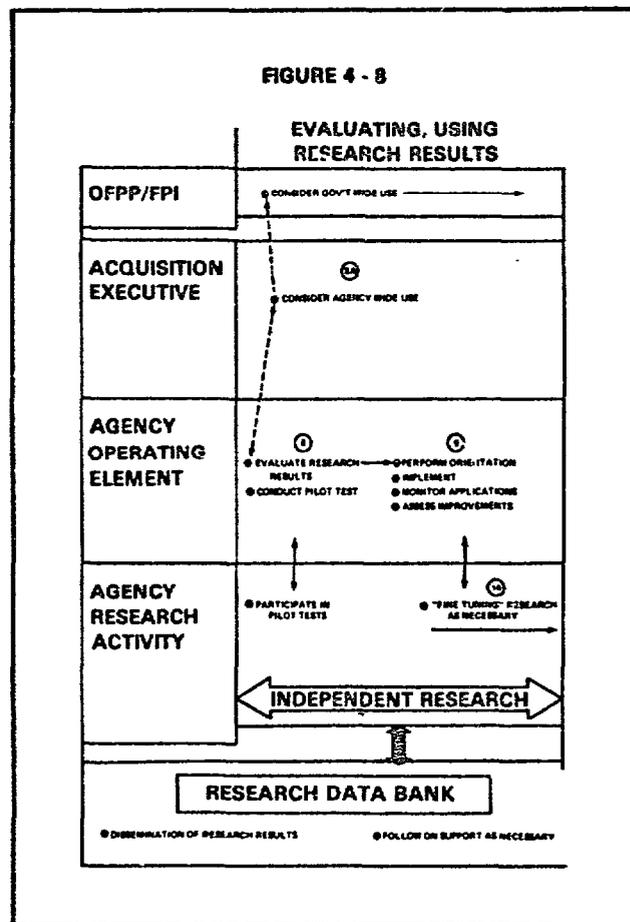
Figure 4-7 is a graphic illustration of the third basic step of conducting the research.



Evaluating and using research results

Portrayed in figure 4-8 are several considerations in evaluating and using research results--the fourth basic step--that are generally accepted as an integral part of any research program to realize its full potential. They include

- pilot testing proposed actions,
- examining agency-wide aspects,
- disseminating research results,
- monitoring selected applications, and
- assessing improvements.



Procurement research, like any research, is a calculated risk with failures to be expected. All problems are not solvable. Some results not immediately usable can provide partial solutions or serve as building blocks for future solutions. Recent findings of the House Appropriations Committee show, however, that evaluating and using research results has been one of the weakest aspects of research studies. 1/

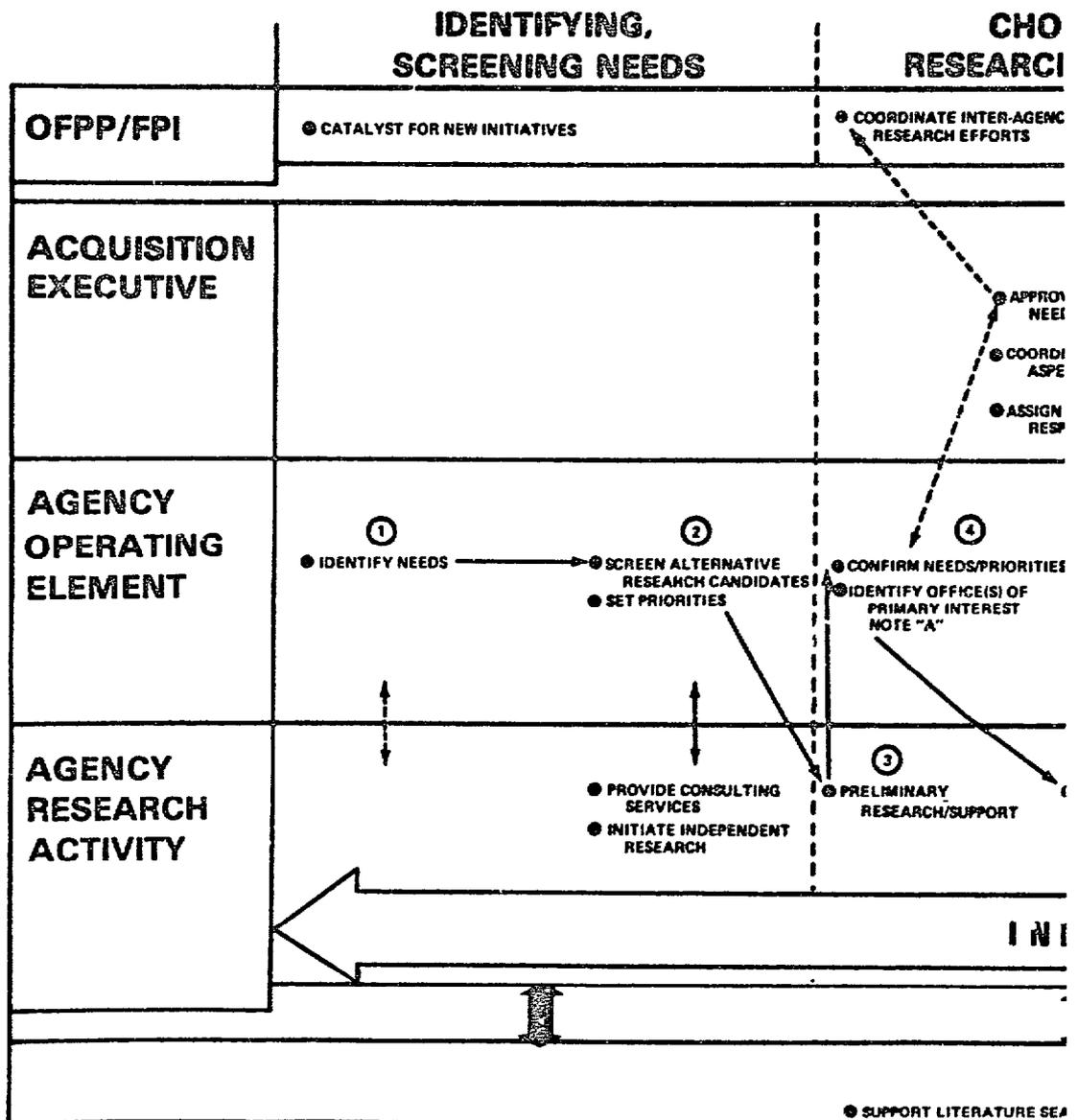
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Figure 4-9 portrays the interaction of the four basic steps with each other, the research data bank, and the roles of executive branch participants. Some outside views we obtained on procurement research and on this model for organizing and operating a Government-wide program, can be found in appendix V, page 44.

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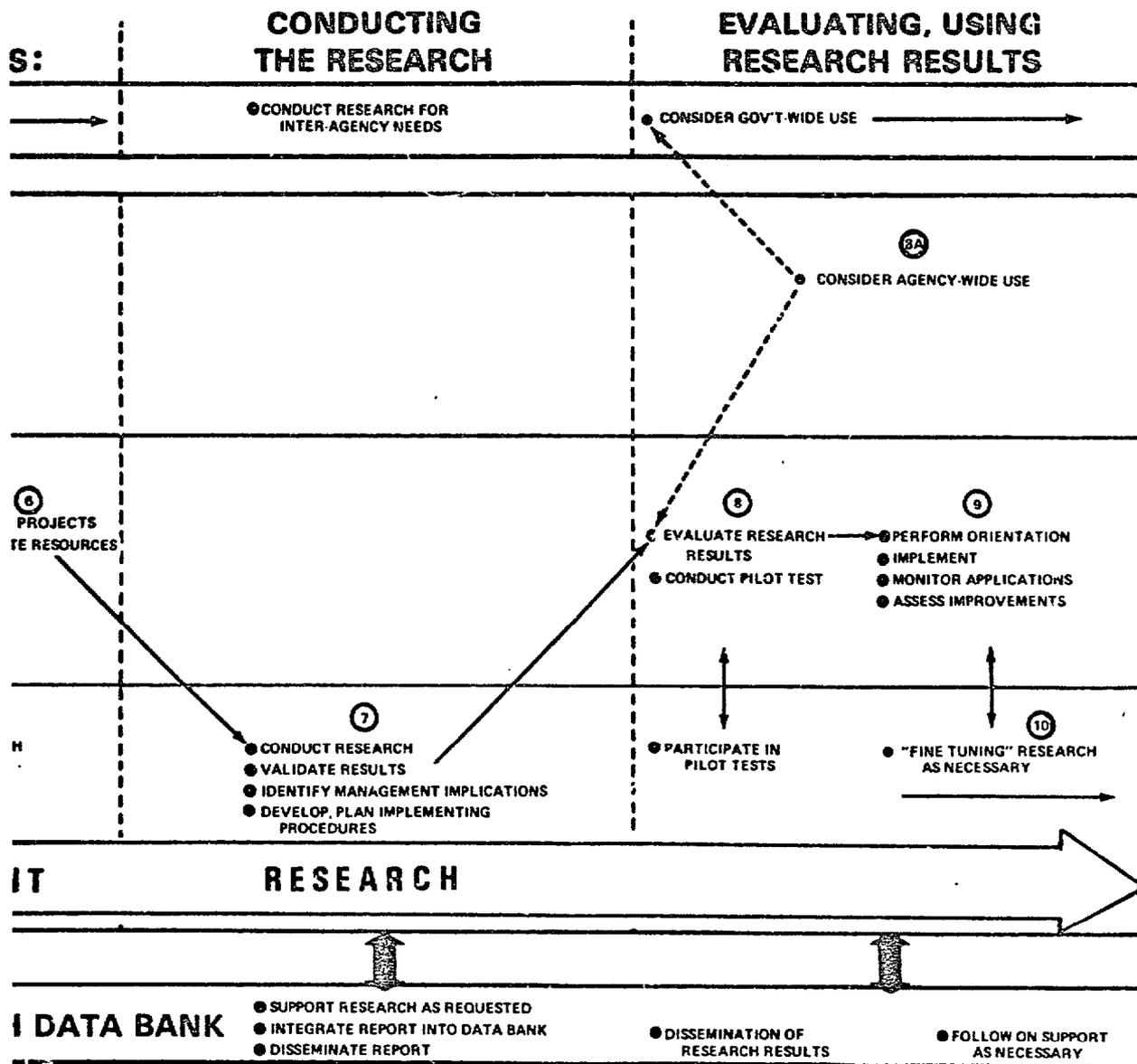
1/The Committee found: (1) studies currently underway and completed are not reported to the data bank as required, (2) recommended actions based on research are questionable, and (3) cost and benefits of actions taken on research work are not identifiable. "Logistics Management Studies within The Department of Defense," a study conducted by the Surveys and Investigations Staff of the House Appropriations Committee, Mar. 1977.

# IMPROVING AGENCY PRO THROUGH RESEA



NOTE "A": AGENCY OPERATING ELEMENTS WITH A VITAL INTERE

# RESEARCH AND ACQUISITION PRACTICES AN ORGANIZED APPROACH



MEMBERS OF THE RESEARCH, AGREE TO SUPPORT RESEARCH EFFORTS UNDERTAKEN ON THEIR BEHALF

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## CHAPTER 5

### MATTERS FOR EXECUTIVE/CONGRESSIONAL ATTENTION

Over the past several decades a vast network of laws, directives, regulations, layers of implementing procedures, and supervision have been accumulating in the procurement and acquisition field. In retrospect, the net benefits have been both elusive and disappointing, and often counter-productive. It is now generally conceded that Federal agency reliance on ad hoc management fixes, new regulations, and other limited solutions has not done the job. 1/

In recent years the Congress has taken a series of initiatives to help executive agencies deal more effectively with their procurement and acquisition problems. It first created a major commission with strong executive branch participation. Later it established a focal point--OPPP--for executive policy leadership. Finally, the Congress has under consideration legislation that would consolidate and restructure the entire body of procurement-related laws and build a new modern statutory foundation for the future.

The desired outcomes of these combined legislative and executive initiatives are to:

- Refocus and intensify agency management attention on the early formative stages of new procurement and acquisition programs, with particular emphasis on mission needs and exploring alternative solutions.
- Seek greater Federal agency reliance on the private sector for the acquisition of systems, goods and services, while stressing maximum use of competition, innovation, and new technology.
- Sustain competitive challenge at least through a critical demonstration phase.
- Rely on commercial product specifications and supply systems that have gained public acceptance in lieu of using Government specifications and supply systems.
- Cut down and simplify Federal regulations, red tape, and paperwork.

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1/For further discussion of problems with past management fixes, see Report of the Commission on Government Procurement, vol. 2, pp. 69, 70, 166, 167, and 172.

Successfully carrying out these policy redirections, while also correcting chronic procurement and acquisition problems, is a major challenge. Also, the Congress, after years of supporting reform, will want to see substantial improvement in Federal procurement and acquisition practices.

#### RECOMMENDATION TO THE DIRECTOR, OMB

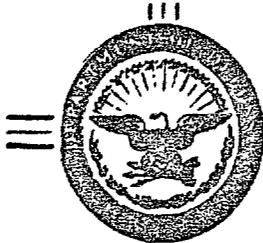
We recommend that a program for procurement and acquisition research be established within the Federal Government. As part of this program, those agencies dependent on procurement and acquisition processes to carry out their primary responsibilities should establish a continuing research effort in order to:

- Correct and refine procedures on a continuous basis and cope with procurement problems peculiar to their agency operations as they arise.
- Design the best ways of giving effect to new Government procurement/acquisition policies and expose them to operational testing.
- Evaluate their experiences, achieve innovative improvements, develop training materials, and participate in research of a Government-wide nature.

#### OMB COMMENTS

OMB shares the concern that not enough attention has been devoted in the past to research of procurement problems. It said the summary of current research activity and the organized approach outlined in the report will be useful in promoting a Government-wide program. (See app. VI, p. 48.)

(950351)



June 22, 1977  
NUMBER 4105.68

DDR&E

## Department of Defense Directive

**SUBJECT** Procurement Research

**References:** (a) Armed Services Procurement Regulation  
(b) DoD Instruction 5154.19, "Defense Logistics Studies Information Exchange (DLSIE)," July 13 1972  
(c) DoD Directive 5010.22, "The Management and Conduct of Studies and Analyses," November 22, 1976

### A. PURPOSE

This Directive prescribes procedures to be followed in initiating, conducting, and administering elements for procurement research.

### B. APPLICABILITY AND SCOPE

The provisions of this Directive apply to the Office of the Secretary of Defense, the Military Departments, and the Defense Agencies (hereafter referred to as "DoD Components") whose procurement mission involves a need for procurement research.

### C. DEFINITIONS

1. A Procurement Research Element is a functional or academic organization whose principal function is to collect, review, digest, analyze, appraise, or summarize data or information related to the procurement-acquisition process for the purpose of developing new management concepts and/or more effective business methods for acquiring systems materiel or services or improving the DoD procurement practices. Procurement Research Elements are primarily concerned with the accumulation and analysis of knowledge for input to DoD Component staff elements whose functions are primarily concerned with identifying and solving policy and operational problems. The Component policy staffs determine the practicality and desirability of using the output of the Procurement Research Elements.

2. Procurement Research involves process activities which cover functions throughout the procurement process, from development of need to disposal, when those actions impact on the decision-making process of what - how - when a solicitation is issued, the policies and procedures used, and the management of the contract. These activities may include, but are not limited to, advance procurement planning, contracting methods, improvements in day-to-day business operations, cost and pricing techniques, performance measurement, source selection, product (quality) assurance applications, production methods or contract requirements.

D. POLICY

It is Department of Defense policy to engage in procurement research to improve practices in obtaining supplies, services, and Defense systems.

E. PROCUREMENT RESEARCH COORDINATING COUNCIL (PRCC)

The PRCC shall provide research guidance and ensure a coordinated effort.

1. The Council is composed of a senior procurement policy member from each DoD Component and may, upon the determination of the Deputy Assistant Secretary of Defense (Procurement), include as members representatives from those Secretary of Defense chartered schools which have a procurement research mission.

2. The Council is chaired by the Director for Contract Administration and Support, Office of the Deputy Assistant Secretary of Defense (Procurement).

3. The Council will function as the DoD steering group in accordance with DoD Directive 5010.22 (reference (c)).

4. The Council may request DoD Component research elements to perform research on matters of concern to DoD top management.

F. RESPONSIBILITIES

1. The Heads of DoD Components

a. Are encouraged to develop an organizational capability to perform procurement research by establishing a Procurement Research Element or by designated existing staff elements whose primary mission is to conduct research to improve that Component's acquisition-business management practices, and

b. Shall be responsible for the programming, budgeting,

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funding, and other related support for their respective research efforts.

2. The Procurement Research Elements shall:

a. Develop research programs designed to match a research need with an existing research capability, either in-house or through an outside organization.

b. Manage or monitor performance of each research project.

3. The Program Research Program shall be designed to:

a. Identify and document those processes or procedures that require research to develop a new or improved technique of procurement or any phase of the acquisition cycle or to apply an improved business method to procurement management. Procurement Research will consist of a balance between long-range and mid-range improvements and be concentrated on fundamental causes rather than immediate effect to differentiate research from normal staff studies.

b. Continuously assess the current status of, and maintain a profile of, economic or business methods research being performed in and out of Government. In addition, the Procurement Research Elements will maintain the liaison required with industry, the academic community, and the other Military Departments to monitor and collect information on methods research.

c. Review and test the products of procurement research for practicality of implementation.

d. Assist in the development of implementation plans for new concepts. As part of this implementation, the Procurement Research Elements may prepare directive or training material needed to implement research results.

4. The Procurement Research Elements may:

a. Either singly or jointly perform research, as requested by the PRCC, on matters of concern to DoD top management.

b. Serve as the focal points within the DoD Components for the dissemination of procurement research information and data. This includes the dissemination of research findings to other Government activities, industry associations, and the academic community.

E. The Procurement Research Elements shall conduct a DoD Procurement Research Symposium annually under the auspices of the Deputy Assistant Secretary of Defense (Procurement) and invite the presentation

of research papers, to share the research with DoD procurement/acquisition personnel and with the academic and industrial communities.

a. Arrangements for hosting this annual research symposium shall rotate among the PRCC members.

b. The basic purpose of this symposium shall be to ensure an exchange of research information.

c. The PRCC will determine the program format and review the subjects of research to be presented at the symposium.

#### G. PROCEDURES

1. The PRCC shall meet at the call of the Chairman, but not less often than quarterly. The Council shall review the DoD Components' current and future research programs, provide the necessary guidance, and maintain constant liaison with the DoD Procurement Research Elements as well as the Federal Procurement Institute (FPI). The Chairman, PRCC, may direct the distribution of any Defense procurement research report(s), as required.

2. Normally, research should be conducted in a systematic manner. Enclosure 1 provides a systematic approach to the procurement research process. Enclosure 1 may be used by DoD Components as a guide in their implementing documents.

3. An annual summary of the procurement research efforts, with a quarterly updating, shall be published. This summary shall include the research performed by DoD Procurement Research Elements and other research efforts identified in the Defense Logistics Information Exchange (DLSIE) as procurement research.

##### a. Reports:

(1) Submit reports showing studies, planned and in process, of procurement research and submit revisions to these reports of each significant change.

(2) Submit copies of each study completed, as developed by the Procurement Research Element, and approved by the DoD Component.

b. All procurement research projects shall be registered with the Defense Logistics Studies Information Exchange (DLSIE) to assure its availability to all interested parties. Registration shall be in

APPENDIX I

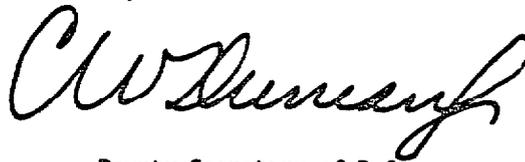
APPENDIX I

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accord with the procedures set forth in DoD Instruction 5154.19  
(reference (b)).

H. EFFECTIVE DATE AND IMPLEMENTATION

This Directive is effective immediately. Forward two copies of  
implementing instructions to the Director of Defense Research and  
Engineering within 90 days.



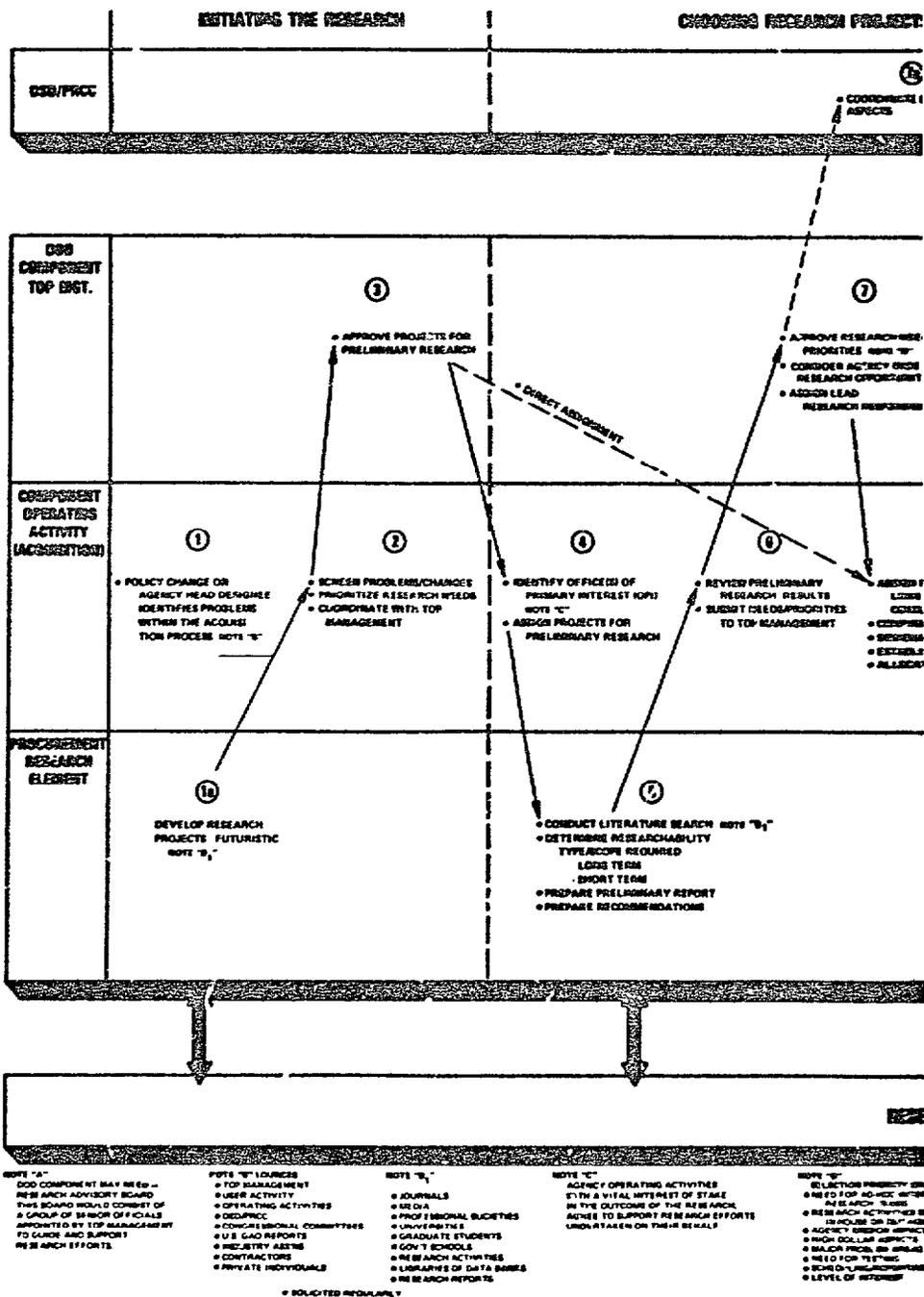
Deputy Secretary of Defense

Enclosure - 1

Chart of Procurement Research Process

APPENDIX I

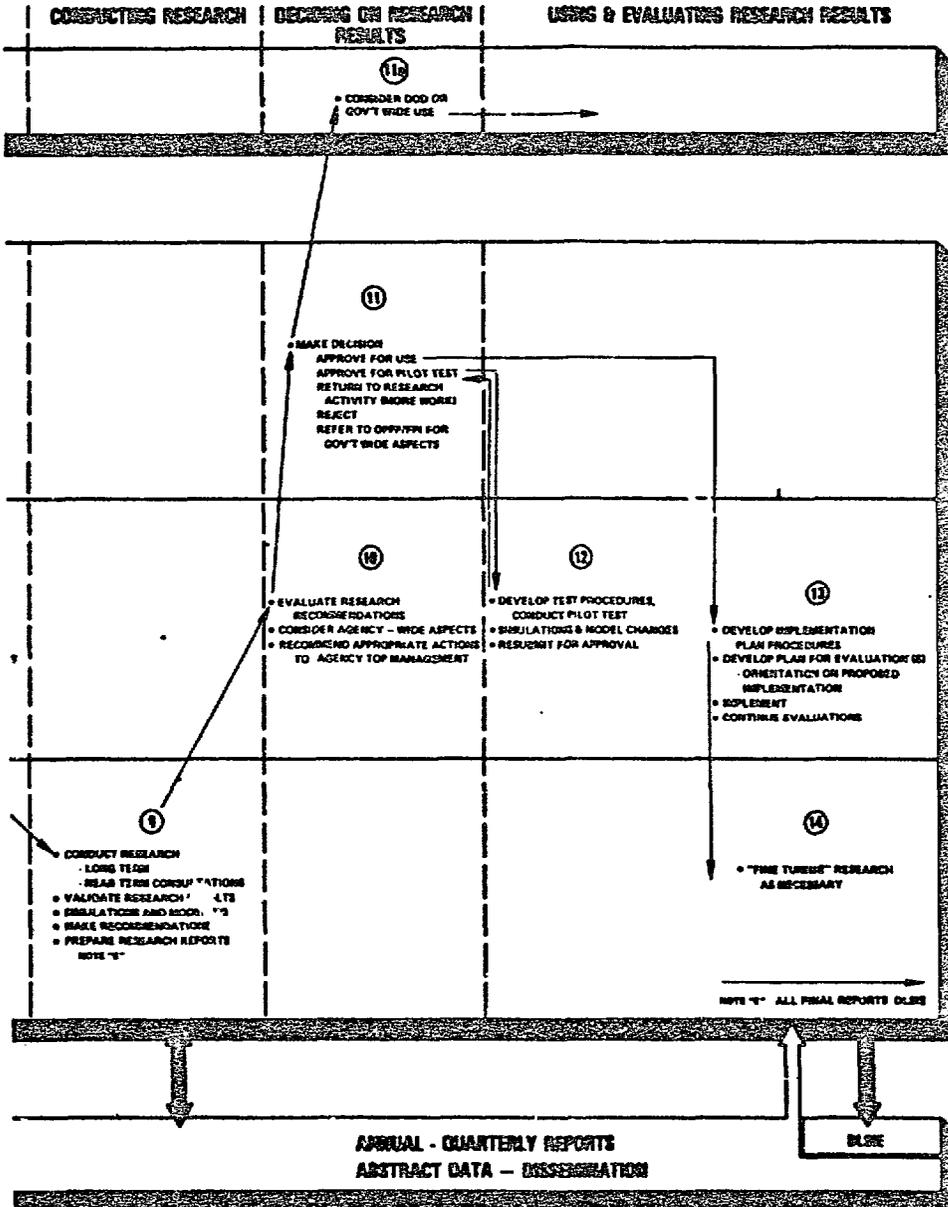
**PROCUREMENT**  
**CORRECTING/IMPROVING THE PROCUREMENT**



**CH PROCESS**

**HIGH RESEARCH: A SYSTEMATIC APPROACH**

MAY, 1978



FORM 104-19  
OFFICE STUDIES  
FOR BUCHANAN

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## Toward More and Better Procurement Research

### Current Efforts are Tentative and Diffuse

**M**any people in the scientific community believe that research, like virtue, is its own reward. Procurement research is not quite that exalted. Harried administrators and impatient Congressmen want to see results—practical applications that will improve the procurement process. The dilemma, of course, is that until considerable resources are devoted to procurement research, and the efforts are sufficiently well-organized, the results will be spotty and meager; but without substantial result it is difficult to get the desired allocation and organization of resources. In this circumstance we have to fall back on America's faith that research does bring useful results. There is also a rather widespread conviction

that much is amiss in Government procurement. With a Federal procurement bill of at least \$55 billion a year, it is plausible, indeed persuasive, to argue that procurement research is a good investment promising large dividends in money savings and more efficient and effective performance.

The Department of Defense (DOD) and its military services, as this issue of the *Defense Management Journal* makes clear, are very much interested in procurement research and sponsor a variety of activities in the procurement field. Viewed from a distance, these efforts seem tentative and diffuse, as if DOD were convinced as a matter of policy that more and better procurement research is needed but were not certain how to carry through. Each military service seems to be separately pondering what is embraced in procurement research, how it should be organized and conducted, the appropriate level of funding, the clientele to be served, and the means of disseminating research data. In a developing field a variety

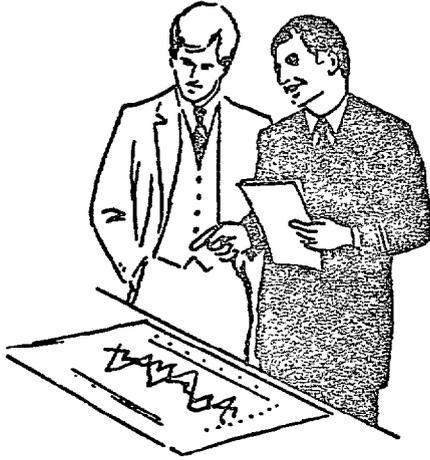
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by Herbert Roback  
Staff Member

Committee on Armed Services  
U.S. House of Representatives

Mr. Roback was formerly Staff Director of the  
House Committee on Government Operations.

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of ideas and concepts is welcome, but the time has come for decisions pointing toward better organization, clearer direction, more visibility, firmer support—in short, a stronger institutional base for procurement research.

#### Establish Research Facility

As such the Department of Defense should consider dusting off and examining anew its plan—fallen yesteryear by the wayside—to establish a Procurement Research Laboratory. First proposed publicly in 1969 by Clark Clifford, then Secretary of Defense, creation of such a laboratory was strongly endorsed by the House Committee on Government Operations<sup>1</sup> and encompassed in a recommendation of the Commission on Government Procurement to establish a Federal Procurement Institute, which would, among other things, “conduct and sponsor research in procurement policy and procedure.”<sup>2</sup> Also noteworthy is the Congressional mandate to the Office of Federal Procurement Policy, written into the enabling legislation, that research in procurement policy be performed and promoted.<sup>3</sup> A portion of the agency’s funds is to be made available for such purposes.<sup>4</sup>

The Office of Federal Procurement Policy<sup>5</sup> is concerned with procurement policy (presumably as distinguished from operational) research and with Government-wide applications. The Department of Defense, through the mechanism of a Procurement Research Laboratory, could well direct its attention to procurement problems with Defense-wide applications.

*Defense Management Journal*

The military services, in turn, could concentrate advantageously on research needs distinctive to their services; for example, the Navy on ship acquisition. This is not to suggest that procurement research be overcentralized or fixed in hard and fast relationships. Components within the Department of Defense or throughout the Government could be assigned procurement research responsibilities reflecting available resources, special capabilities, demonstrable achievements and the like. Civilian contracting organizations also could be utilized.

The important tasks immediately ahead are to give coherence and direction to a many-sided research effort by providing central focus, identifying relevant and promising research areas, selecting priority projects, preventing unnecessary duplications, developing an adequate data base, maintaining directories of research performers and users, establishing channels of effective communication, and ensuring continued funding support.

#### Remove the Pitfalls

Procurement research projects, properly designed and executed, will be responsive to the needs of the procurement community. Many of these needs are felt or seen, while others are yet to be identified. Quick-fix research tasks have their place, but more important and enduring will be the research efforts which go to root causes and seek basic reforms. An important consequence of such research, particularly regarding major weapon systems, is to provide better visibility and understanding

<sup>1</sup> “Policy Changes in Weapon System Procurement,” House Report 91-1719, December 10, 1970, pp. 33-34.

<sup>2</sup> Report of the Committee on Government Procurement, U.S. Government Printing Office, Washington, D.C. 20402, Vol. 1, p. 52, December 1972. Available from the Superintendent of Documents, U.S. Government Printing Office; order no. 5255-1002, price \$2.60.

<sup>3</sup> Section 6(d)4 of Public Law 93-400, approved August 30, 1974, 88 Stat. 798, 798.

<sup>4</sup> Public Law 93-400 (section 11) authorized \$2 million for the first fiscal year of OFPP operation (1975), of which not more than \$150,000 was to be available for procurement policy research. In its first increment of funding for part of a fiscal year, the OFPP received \$880,000. Presumably a proportionate share will be devoted to research.

<sup>5</sup> See “The Role of OFPP: Unify and Coordinate,” by Hugh E. Witt, *Defense Management Journal*, January 1975, p. 38.

of the procurement process as a whole, so "front end" decisions are made with more intelligent realization of their impact on cost, schedule and performance all along the way to the "back end." The long road from requirements determination to maintenance in the field should have more of the pitfalls removed.

Innovative procurement research will have to test and challenge conventional wisdom and preconceived concepts. Incentive contracting, for example, seems to be firmly fixed in the defense procurement firmament, and yet there are analytical reports and commonsense or intuitive judgments which question the efficacy of the incentive arrangements. Can procurement research throw more light on this difficult subject? I suggest it can, although the design of the research project may be difficult and its execution arduous. In any case, procurement research should be a constant prod against complacency and comfortable acceptance of the familiar way as the right way.

To challenge conventional wisdom is not license to run all over the procurement lot researching the bizarre, the esoteric, or the trivial, or simply to satisfy one's intellectual curiosity. Such exercises best can be left to those who are working without Federal funds. Procurement research will draw upon varied intellectual disciplines, particularly the knowledge and techniques of the social sciences, but it must be itself disciplined to improve the procurement process. Consequently, it is important to develop and perfect analytical techniques which validate research assumptions and to carefully evaluate the quality of the research output.

#### Exchange Information

Once in a while I come across a "lesson learned" report on the procurement of a major system or component; it makes me wonder why more such reports are not prepared and more widely disseminated in the procurement community. In the interest of more intelligent and sophisticated procurement a vast amount of useful information could be distilled from the experience and records of project managers. It is exasperating to see avoidable errors constantly repeated, as if procurement practitioners, like those who do not read history, are condemned to repeat the mistakes of the past. On the simplest plane, I can envisage a checklist of caveats available to the project manager or contracting officer which will at least sharpen his awareness of pitfalls and help him to avoid them. This kind of information also should serve to reduce or eliminate rote use of procurement concepts or methods which may not be suited to the particular situation.

Research in procurement is not the kind of research which produces breakthroughs, quantum jumps or magic formulae; it deals with prosaic problems of Government as buyer and user of needed goods and services. Nonetheless, its potential is great in helping to devise ways and means of doing a better job, which means getting more for the dollar or getting what is required for less dollars. Even more important, it means helping to inspire public confidence in the ability of Government to conduct its business in an honest, prudent and businesslike way. Procurement research is not its own reward, but it is a rewarding effort. It deserves sustained high-level attention and support. □

LIBRARIES AND DATA BANKS

1. The Commission on Government Procurement Library is maintained by GSA for all executive agencies
2. The Army Library in the Pentagon maintains an extensive collection of procurement literature and reference works, including an information retrieval system.
3. Federal Depository Libraries (39 agency designated libraries) receive and retain one copy of all government publications. These are available to over 1,000 field libraries which requisition publications best suited to their particular clientele needs.
4. The National Technical Information Service (NTIS) operated by the Department of Commerce, publishes Weekly Government Abstracts of Technical Reports by category, and bimonthly Government Report Announcements with indexes by subject, author, Government contractor, and order number. They also provide hard copy or microform copies of documents and custom searches of the NTIS data bank by subject.
5. The Defense Documentation Center is a repository and issue point for general reports and technical studies.
6. The Defense Logistics Studies Information Exchange prepares and prints abstracts and custom bibliographies, and acts as a repository and issue point for studies and reports dealing with logistics and procurement.

RESEARCH GUIDES

In 1975 the Army Procurement Research Office, acting as executive agent for DOD, published two guides for researchers:

1. Resources for Performing Procurement Research--lists of key words, or descriptions, to identify specific publication resources maintained within the Defense Logistics Studies Information Exchange. It also lists research resources, including governmental and private research groups, schools, and operating organizations.
2. A Guide to Sources of Information for Procurement Research--contains a wide range of data listings, including information sources, reporter publications, bibliographies, legislative materials, periodicals, statistical data, lists of industry associations, and many topical references.

SOME EXPERT VIEWS

Several research experts who reviewed preliminary material in this report expressed varying opinions as to the nature of research and its management. Their views were considered and some are presented here because of the perspective they may add.

DIFFERENT KINDS OF RESEARCH a/

There are two important fundamental kinds of research. The first is research on the nature of the procurement and systems acquisition process itself, which would rely largely on data about and analyses of past procurements. The purpose here would be straightforward, namely, to inform acquisition executives about what has worked and what has not, so that they might better guide their own policies and activities.

The second kind of research is evaluative research that attempts to assess progress, success, or failure of ongoing activities (what you called "experiments" in your report). Here we run into what you might call the "moving target problem." This is, when one is involved in research on current acquisitions or procurements that may involve millions of dollars and for which there must be many ongoing, simultaneous management actions, (1) it is difficult to specify an analytical quantitative basis with which outcomes can be compared, to ascertain the true effects of changing the variables of the problem; and (2) when one finds that a procurement is headed in a possibly inefficient direction, one cannot let it go forward simply for the sake of the research experiment, because of the potentially large amounts of money that may be inefficiently spent. Therefore, over the lifetime of a procurement, the evaluative research will interact with the procurement and it may be difficult at the end to separate the contributions, and lessons emerging from the research, from the results of independently made management decisions that may or may not have been formed by the research. Thus, while evaluative research in parallel with acquisition experiments is extremely important, it is likely not to be able to follow strict analytical, scientific principles. A great deal of forbearance is therefore required of the research managers, the participants in the research, and the recipients of the results, in interpreting and assessing the meaning and value of the research or its results.

a/Views of Dr. Seymour J. Deitchman, Institute for Defense Analysis.

THE GAO MODEL a/

The impression conveyed by the GAO model (see fig. 4-9, p. 26) and the discussion in the report is that a substantial commitment of resources should be devoted to procurement research, and that it should be largely directed research into questions surrounding current policy initiatives. 1/ The model recognizes the subject of independent research, but the thrust of the report is that research should be rather fully coordinated. One great advantage to this is that the researcher should experience easier access to source information for projects coordinated at the levels indicated in the model.

There is an offsetting problem with the degree of integration contemplated by the model. It would tend to channel the researcher's efforts into support of directed study efforts. This is a valuable capability, but may tend to limit conceptual and original idea formation as a part of the research programs. 2/

\* \* \* \* \*

There is no one best way to manage the conduct of research. The environment in the agency determines (1) the organizational, functional, and administrative structure, (2) the operating research management methods (modus operandi), (3) the types of individuals assigned to research and the mix of research disciplines utilized, and (4) the transient research opportunities.

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1/We offer no opinion as to the size of a research program; it would vary with importance of the procurement process to an agency's missions and with the extent of problems being encountered and new policies being initiated.

2/The model is both top down and bottom up; a research need and candidate can enter at any level and from any source. We did clarify the model to highlight availability of discretionary or independent research by the research activity.

a/Views of Dr. Stanley N. Sherman, The George Washington University School of Government and Business Administration, and Lt. Col. Daniel E. Strayer, Executive Director, Air Force Business Research Management Center, respectively.

The GAO model, which is essentially a top/down research approach, "appears" to present a one best way to manage procurement research. This perception by others, including agency top management, could be damaging to research in that the researchers might find themselves locked in to a rigid top/down research management system which, in turn, could hamper effective research. 1/

The model proposed also appears to be too oriented to assigning responsibilities and producing reports as the final product at the end of the research cycle. Research is more concerned with determining what needs to be done, doing things, and getting results, rather than with issuing final reports. Also, research communications with operating managers should occur during all the research steps. It is a continuous process of incremental updates, and is also a subtle mechanism to keep operating managers informed, turned on, closely involved in the ongoing research program, and ready to provide the necessary sponsorship and support. 2/

#### GETTING RESULTS a/

Research findings from two recent studies of major procurement procedure change efforts support the conclusion that the human elements of the change adoption process dominate or, at least, very strongly influence the success or failure of new performance programs. Further, the findings strongly suggest that beliefs held on three important variables by people involved in change are strongly associated with their acceptance or rejection of the change and thus with the success or failure of the project. These variables are: need, cost of implementation, and benefits of implementation.

The implications of the significant human role in success or failure of new performance programs are great. They

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1/Ibid., footnote 2, p. 45.

2/The above comments have considerable merit, but research work (successes and failures) needs to be documented in some fashion for the future.

a/Views of Lt. Col. Daniel E. Strayer, Executive Director, Air Force Business Research Management Center.

touch everyone concerned with new performance programs: the authorizers, the developers/researchers, and the users. The following guidelines are offered:

- Insure that the need for improved performance is understood and accepted at all levels of the affected organization. Charters from top management, a frequent initiator of change, are not necessarily sufficient to guarantee success.
- To the extent possible, involve potential users in developing the new performance program. This helps avoid solving the wrong problem and provides essential credibility regarding the need for improvement, costs of implementation, and expected gains.
- Design the performance program to minimize the costs of implementation. Be sure that performance improvement, not technical sophistication is emphasized.
- Use pilot tests to establish credibility, quantify the achievable benefits and assess the costs of implementation. This critical step provides meaningful hard facts to counter the detractors and emphasize the need for the new program and the high benefits that should accrue in relation to its cost. (If the payoffs are not significant, the project must ask the hard questions and make appropriate decisions.)
- Address the implementation question at the outset and manage it as a total effort. Use training liberally and in advance of need. Be sure that the training materials address the needs, costs, and benefits associated with the new performance program, not just the technical innovations involved.

APPENDIX VI



EXECUTIVE OFFICE OF THE PRESIDENT  
OFFICE OF MANAGEMENT AND BUDGET  
WASHINGTON, D.C. 20503

OFFICE OF FEDERAL  
PROCUREMENT POLICY

JUL 12 1977

Mr. Victor L. Lowe  
Director, General  
Government Division  
General Accounting Office  
Washington, D. C. 20548

Dear Mr. Lowe:

This is in response to your letter of June 10, 1977, to  
Honorable Bert Lance, forwarding your draft report  
"Improving Federal Procurement and Acquisition Practice  
Research."

The Office of Management and Budget shares your concern that  
not enough attention has been devoted in the past to  
the procurement problems. The summary of research  
now being carried on, and the framework for an ex-  
perimental program suggested in your report will be useful in  
developing a Government-wide program.

In the second paragraph of the digest, you state that  
the improvements have not been forthcoming due, in part,  
to the lack of strong and sustained agency research to  
get at root causes and make breakthrough improvements.  
We have no doubt that a strong program of procurement  
research will result in significant improvements, but this  
coupled with operational implementation considerations.

In summary, the report is good and very timely.  
The opening statements in the digest do appear to overstate  
the problem and could detract from the effectiveness of the  
program. These could be softened to adequately allow for the  
work that has gone on to make our current system work.

Sincerely,

Lester A. Fetti  
Administrator